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ABSTRACT

The Visual Communication section of the proceedings contains the following 8 selected papers: "Affect and Emotion: Eliciting Compassionate Response via Facial Affect in Visual Images" (Courtney Bennett); "A Study of the Persuasiveness of Animation When Used as Forensic Demonstrative Evidence" (Benjamin Allyn Meyer); "Southern Mentalities, Photographic Reflections in Black and White: The 1915-1960 Mississippi Pictures of O.N. Pruitt" (Berkley Hudson); "If Looks Could Kill: The Ethics of Digital Manipulation of Fashion Models and Attitudes of Readers" (Shiela Reaves, Jacqueline Bush Hitchon, Sung-Yeon Park, and Gi Woong Yun); "Establishing a Photojournalism Historiography: An Historiographical Analysis of the Developmental Approach" (Timothy Roy Gleason); "Normative Conflict in the Newsroom: The Case of Digital Photo Manipulation" (Wilson Lowrey); "A Longitudinal Analysis of Network News Editing Strategies from 1969 through 1997" (Richard J. Schaefer); and "Digitally Altered News Photographs: How Much Manipulation Will the Public Tolerate before Credibility Is Lost?" (Joseph D. Gosen and Jennifer Greer). (RS)

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Affect and Emotion:
Eliciting Compassionate Response Via Facial Affect in Visual Images

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Abstract

This study aims to extend research on the effects of visual message elements by examining the relationship between facial affect and emotional response. A study was conducted to explore two questions: 1) whether facial affect in visual images influences how compassionately people feel toward the person portrayed visually, and 2) what the relative influence of a message's verbal and visual elements would be on compassionate response. The findings and their implications were discussed.

Introduction

Across a variety of disciplines, a substantial body of research suggests that people respond to and process visual information differently than textual information (e.g. Aust & Zillmann, 1997; Mitchell, 1986; Jamieson, 1992; Reeves & Nass, 1996). A key difference is that visual media seems to engender an automatic affective response based on people's natural and automatic tendency to process and respond to particular facial displays of emotion (see e.g. Buck, 1989; Chaudhuri & Buck, 1989; Cappella, 1993). At the same time, the elements of a visual image that elicit an emotional reaction are not well understood. This study aims to extend research on the effects of visual message elements by examining the relationship between facial affect in visual images and the emotional response the image evokes. Specifically the study asks whether facial affect in visual images influences how compassionately people feel toward the person portrayed visually. By exploring the conditions under which differences in compassion ratings emerge as a function of facial affect (i.e. negative and positive facial displays of emotion), this paper hopes to provide insight for message design, particularly messages that seek to influence prosocial behaviors (e.g. what Bagozzi & Moore (1994) have termed "help-other PSAs"). In addition, by comparing identical images accompanied by different text labels, the study examines the relative influence of the verbal and visual elements of a message on compassionate response.

The discussion will now turn to evidence for differences in emotional response as a function of the modality of the message (i.e. textual vs. visual).

Message Modality: Visual Media and Affective Response

There is evidence that visual media have the unique ability to elicit emotional responses from audiences. In a comparison of the effects of 240 magazine and television advertisements on cognition, Chaudhuri and Buck (1995) found that electronic media engenders emotional and affective involvement, while print media engenders rational and analytic involvement (even when controlling for a host of other advertising variables like product category, product use, verbal and nonverbal elements, and familiarity with the ad). Arguing for a link between automatic affective response and electronic media, they drew on Buck's (1989) claim that electronic media can exploit people's biological ability to receive and directly understand the meanings of certain facial displays of emotion (see also Cappella, 1993).[1] This ability gives audiences direct visual access to the feelings and desires of people displayed via electronic media, which in turn can elicit emotional reactions from audiences (see e.g. McHugo, Lanzetta, Sullivan, Masters, & Englis, 1985). Furthermore, Buck (1989) argues that spontaneous emotional communication via the electronic media has created "a system of electronic emotional communication that is capable of sharing feelings and thus influencing the emotional education of vast numbers of people" (Chaudhuri and Buck, 1995, p. 122).

In a related approach, Zillmann (1991, p. 160) argues that today's "high-fidelity iconic representations" obviate the need for people to engage in perspective-taking or to try to imagine what the other person feels; in other words, nothing needs to be "transformed or filled in." In addition, affective reactions to these iconic portrayals may be doubly powerful because the affect they elicit combines both affect from the memories they trigger as well as the affective response to the representations themselves. Similarly, Messaris (1997) suggests that the more visuals can reproduce real-world experiences, the more they can exploit the response tendencies (e.g. affective responses) associated with them. Finally, Reeves and Nass (1996) argue that people process pictures of faces as if they were "actual interpersonal encounters," with social cues in the images influencing their response.

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The Relative Influence of Verbal and Visual Elements

Several studies have found support for the notion that visual elements of a message have a separate influence on emotional response or attitudes. For example, in a study of the relative influence of visual and verbal elements of advertisements on brand attitudes and attitude toward the ad, affect-laden pictures in advertisements (that also had copy) were shown to influence brand attitudes separately from the copy (Mitchell, 1986). Negatively evaluated visuals also elicited less favorable attitudes than positive or neutral visuals (previous work by Mitchell & Olson, 1981 had demonstrated that positively evaluated visuals elicited more positive attitudes than neutral visuals). Mitchell proposes two ways that visual components of advertising may affect brand attitudes (see also Mitchell & Olson, 1981). First, visual information may invite inferences about the advertised brand that result in the creation of new or a change in existing beliefs about the product. For example, Mitchell & Olson (1981) found that a picture of a sunset in an advertisement for facial tissues created the belief that the brand came in more attractive colors. Second, operating through attitudes toward the ad, positive or negative evaluations of visual elements may affect brand attitudes.

Similarly, in the political arena, Jamieson (1988, 1992) argues that visuals in political advertising invite inferences that go beyond verbal content. In an analysis of the infamous "Willie Horton" ad that aired during the 1988 presidential election, Jamieson (1992) argues that a careful juxtaposition of visuals and words influenced voter perceptions by implying that then-Governor Dukakis had paroled 268 prisoners who then "jumped furlough to rape and kidnap" (see pp. 20-21 for a complete analysis). In addition, studies that aim to improve media coverage of political advertising have demonstrated the power of visual information. For example, efforts to monitor political advertising seemed to produce a boomerang effect where full-screen ad watches inadvertently enhance the influence of targeted spots. As Jamieson (1992, 103) describes it, "In the contest between evocative pictures and spoken words, pictures usually win." In response, Jamieson and her colleagues at the Annenberg school developed a visual grammar[2] to counteract the problems associated with airing a full-screen ad during an ad watch, such as additional exposure and contextual credibility (see e.g. Pfau & Louden, 1994). According to Jamieson (1988, 1992) part of this problem stems from the fact that "because pictures are processed faster and at a deeper levels than words, they are able to 'drown out' the verbal statements of reporters who are showing the controversial ad as they debunk its claims" (1992, 147).

More evidence for separate effects from emotion-laden visuals in television news comes from an analysis by Zillmann and his colleagues (e.g. Aust & Zillmann, 1996; Zillmann, Gibson, Sundar, & Perkins, 1996) that shows that visual exemplification in news stories influences people's perception of the social issues discussed in these stories. For example, in a study of the effects of victim exemplification in television news on viewer perception of social issues discussed in those stories, they found that emotion-laden testimonials by victims (compared to stories without victim exemplification or exemplification with unemotional victims) increased viewer perceptions of both problem severity, and risk to self, and also produced reports of higher distress reactions (Aust and Zillmann, 1997). According to Zillmann, et al. (1996, 427), exemplars are "case descriptions" of a "particular social phenomenon" that exhibit the "pertinent properties of this phenomenon to some degree." Furthermore, people seem to judge these exemplars in terms of "typicality rather than with quantified precision." In other words images may serve as exemplars that come to represent an idea or issue to audiences, and in turn guide people's response to that issue or idea.

Image Comparisons: Disease Population Labels

In order to contribute to research that tested the relative influence of verbal and visual elements of a message, the current study compares the same image with two different labels, either as "person with AIDS," or "person with leukemia."

These disease populations were chosen for three reasons. One is that people's pre-existing evaluations of AIDS and leukemia patients significantly differ with regard to attributions of responsibility: People with AIDS are seen as bearing more personal responsibility for their condition than people with leukemia (Levin & Chapman, 1993; Bennett, 2001). Another is that attributions of responsibility have been shown to be a critical factor in eliciting compassionate response: People give higher compassion ratings to disease populations that they view as less responsible for their condition (Bennett, 2001; see also Nussbaum, 1996). Not surprisingly then, people also report greater pre-existing feelings of compassion toward leukemia patients compared to AIDS patients. Finally, these pre-existing differences in people's perceptions of AIDS and leukemia patients has led to preferential treatment of leukemia patients in decision problems (Levin & Chapman, 1990, 1993; Bennett, 2001). For these reasons, comparisons of identical images with disease labels from these two disease populations should provide a stringent test of the relative influence of the verbal and visual elements of a message: Images labeled as "person with AIDS" could reasonably be expected to receive lower compassion ratings than the same images labeled as "person with leukemia". Thus a comparison would generate the following research question:

> Research Question 1: Will comparisons of compassion ratings for identical images with different identifying text labels (i.e. "person with AIDS" vs. "person with leukemia") yield significant differences?

If the same image receives higher or lower compassion ratings on the basis of its descriptive label, then the verbal elements may have exerted more influence on emotional response than the visual elements of the message. If however, an image's compassion ratings are similar, irrespective of its descriptive label, then the visual elements probably had more influence.

Visual Elements and Emotional Response

While no research exists on the relative influence of positive or negative facial display on compassionate response, a variety of studies have focused on different elements of visuals (e.g. image size and camera angles) and their effects on behavior and attitudes.

For example, research has shown that people evaluate images of other people more intensely when the images are close rather than far away (Reeves & Nass, 1996). Recognition memory is also higher for close-up images, especially those "viewed from a close distance and faces framed with a close shot" (p. 45). Similarly, larger pictures (e.g. on larger screens) elicit "more arousal, stronger memories, and more positive evaluations of the content they displayed" (p. 198).

Another series of studies tested the effects of camera angles (see Messaris, 1997 for a review). Low angles (i.e. shot from below) have been shown to convey a sense of power and strength. Other studies suggest that a direct, face-to-face view invites identification (Galan, 1986 cited in Messaris, 1997; see also Cappella, 1993).

Finally, research shows that people respond positively to juvenile facial gestures and postures, making "pictures of children a reliable ingredient of commercial ads […] as well as non profit appeals for a variety of causes" (Messaris, 1997, p. 41).

These studies provide useful guidelines for stimuli selection of visual images in the current study. They also underscore the importance of matching images on the basis of characteristics such as age, range (i.e. close-up or far away), camera angle, and image size. Finally, these studies lead to another research question:

> Research Question 2: Can variations in demographically similar visual images – in this instance positive vs. negative facial displays of emotion – produce significant differences in compassion ratings?

An experimental study was conducted to address these research questions.

Experiment: Facial Affect and Compassionate Response

The study examined whether differences in compassion ratings emerged as a function of facial display of emotion. It also tested the relative influence of the verbal and visual elements of a message by comparing compassion ratings for the same image with different text labels. Using a compassion scale developed by Bennett (2001), fifty images were tested.

Method

Participants

98 (40% male, 60% female) University of Pennsylvania undergraduates, recruited from a variety of communication and history courses, participated in the study. The mean age for all respondents was twenty (SD=1.03).[3] 68 percent of respondents identified themselves as "White or Caucasian," 19 percent as "Asian or Asian-American," 6 percent as "Black or African-American," and 3 percent for each category of "Hispanic or Latino(a) and "Other."

Apparatus

The study was administered on six Windows NT Pentium class II machines with standard "wintel" architecture.[4] Using MediaLab (version 51) software,[5] an electronic survey was developed for the study.

Instrument

The electronic survey had the following components: 1) fifty images, randomly presented in a different order to each subject; 2) a 4-item compassion scale for each image[6] (the four adjective items are: sorrowful, compassionate, moved, and tender feelings toward the person), with each item presented in random order; 3) a randomized 12-item perspective-taking scale (modified from Stiff, et. al, 1998); 4) randomized, separate ratings of knowledge about each disease and perceptions of personal risk for each disease (modified from Block & Keller, 1995; Keller & Block, 1997), and 5) demographics questions. For a complete version of the electronic survey for this study, please refer to Appendix A.

Procedure

The electronic survey was administered in a university computer lab by individual appointment, although several students were able to sign up for the same time slot (with seven machines available). The maximum number of students taking the survey together at any one time was seven, and the minimum was one.

Stimulus Selection: Image Collection and Creation

Overall, two goals guided stimulus selection. One was to collect images that were demographically varied in terms of age, race, and gender. Another was to collect images that clearly portrayed both negative (e.g. anger, fear) and positive (e.g. happy) facial displays of emotion.

Images were collected in two stages. First, they were found using the searchable Associated Press (AP) Photo Archive database, which electronically stores images taken by AP news photographers. Two separate preliminary searches using the key words "AIDS" and "Leukemia" resulted in 2712[7] and 122 image hits respectively. After a preliminary viewing, images that met the following criteria were downloaded: a clear portrayal of the disease patient (e.g. only one subject in the frame, full or clear view of the subject's face); a lack of physical cues about either disease (e.g. Kaposi's sarcoma sores for AIDS or chemotherapy-induced baldness for leukemia); and patients who were not famous or well-known[8] (to avoid activating previously held attitudes toward that person). These images were then further sorted to select those that had clear positive and negative facial displays of emotion. A second search was conducted, using various emotional key words such as "angry," "frightened," "scared," and "happy." After viewing the images, those that met the previously established criteria were downloaded. This stage of image collection resulted in twenty-one images of people with AIDS, and thirty-five images of people with leukemia.

The second stage of image collection sought to increase the diversity of the sample, and to match existing images on the basis of demographics and facial display of emotion. First, efforts were made to match images from the AP database with each other on the basis of facial display (i.e. positive and negative), gender, race, and age. The matching process was to control for extraneous variables that might influence compassion ratings. Second, efforts were made to collect images in demographic categories that were not represented in the AP images. After obtaining their consent, photographs were taken of various people using a 35-millimeter camera with either black and white or color film. Participants were prompted to display a variety of facial emotions (e.g. "pretend that someone has done something that makes you really angry"). These images were then matched with the AP photos and among themselves to produce possibilities for testing in each category. In addition to demographics, matching criteria included characteristics such as black-and-white or color film, image size, range (e.g. facial close-up versus full-body shot), and camera angle. Fifty images in sixteen demographic categories[9] represented the sample for the study. The categories were: white male infant;[10] black male child; black female child; white male child; black male teen; ethnic female teen; white female teen/undergraduate; white male teen/undergraduate; black female undergraduate; white female, thirties; white male, early-to-mid thirties; white female, middle-aged; white male, middle-aged; black male, middle-aged; black male, elderly.

Disease Label Conditions

To explore the relative influence of the message's verbal and visual elements, two versions of the survey were created, resulting in two disease label conditions. Images that were labeled as "person with AIDS" in the first condition were labeled as "person with leukemia" in the second, and vice versa. Subjects were randomly assigned to one of the two survey conditions (i.e. disease labeling as either AIDS or leukemia). This process allowed each image to be tested with two different disease labels.

Measures

Compassionate response was measured by a 4-item index developed by Bennett (2001). For each image, subjects rated each of the four adjective items (sorrowful, compassionate, moved, and tender feelings toward the person) on a seven-point Likert-type scale anchored by "not at all" and "very much." Separate compassion scales were created for each image, based on the four-items used to rate that image. Reliabilities for each scale were excellent, ranging from alpha = .89 to .94.

Results

Comparison of Disease Label Conditions

To determine whether the image's disease label influenced compassion ratings, independent sample t-tests[11] (with condition, AIDS label vs. leukemia label, used as a grouping variable) were used to test for differences in compassion ratings for each image by condition. Of the fifty images rated, only three showed significant differences in ratings between conditions: Image 8 (sad, black, male child), (leukemia, M = 5.23, AIDS, M = 5.82, t (96) = -2.38, $p < .05$); Image 17 (sad, white, male, teen/undergrad), (AIDS, M = 4.28, leukemia, M = 4.86, t (96) = -2.04, $p < .05$); and Image 39 (sad, black, female child), (leukemia, M = 5.14, AIDS, M = 5.69, t (96) = -2.16, $p < .05$).[12] These findings are not greater than might occur by chance, however, and data from the two disease label conditions were combined for all further analyses.

Overall, these results suggest that the visual elements of the message (i.e. the facial affect of the person portrayed visually) had a stronger influence on compassionate response than the image's identifying disease-label text.

Image Comparisons: Compassion Ratings

To control for intrinsic differences in the images that might account for differences in compassion ratings, images were matched on the basis of demographics (e.g. age, race, and gender) and image characteristics (e.g. black and white or color film, close-up versus full-body shot, facial display). Based on general perceptual groupings, sixteen demographic categories were created for the images (see Table 1 for details). Compassion ratings for these matched images were then compared on the basis of facial display of emotion (i.e. positive vs. negative, or negative (sad, fearful) vs. negative (angry) facial display) using paired t-tests. As Table 1 shows, most of these comparisons produced significant differences in compassion ratings. In other words, differences in compassion ratings emerged as function of facial display of emotion (i.e. positive or negative affect).

Table 1:
Paired Image Comparisons by Demographic Category and Image Characteristics

Demographic category	Images	+/- Facial Display	Means	Matched images	t (97)
White, male infant	Image 31, maxcry-	-	5.94	31-32	2.36*
	Image 32, maxsmile	+	5.71		
Black, male child	Image 21, grimacingboy-	-	4.46	7-21	3.54***
	Image 7, boypos-	+	5.03	8-21	7.56***
	Image 8, boysad-	-	5.53	21-40	-8.04***
	Image 40, scaredboy	-	5.83	7-8	-4.31***
				7-40	-6.82***
				8-40	-2.89**
Black, female child	Image 39, sadyounggirl-	-	5.42	19-39	-3.04**
	Image 19, girlonbench-	+	5.03	15-39	-5.27***
				16-39	1.72
				16-19	4.39***
	Image 15, focus-	+	4.64	15-19	-3.46***
	Image 16, frightenedgirl	-	5.58	15-16	-6.69***
White, male child	Image 48, towelboy-	+	5.28	6-48	-1.85
	Image 6, boyonbench	-	5.04		
Black, male teen	Image 13, fence-	+	4.09	13-27	2.36*
	Image 27, maleteensad	-	3.79		
Ethnic, female teen	Image 12, cryingteen-	-	5.08	9-12	-6.71***
	Image 9, carew-	+	4.11	12-33	-7.46***
	Image 33, michelle	-	5.88	9-33	-11.33***
White, female teen/undergrad	Image 46, teenhorror-	-	4.61	22-46	-4.74***
	Image 22, happyteen-	+	3.90	10-46	-7.35***
	Image 10, collegecost-	+	3.59	20-46	4.36***
	Image 20, girlteencry-	-	5.09	18-46	-1.76
	Image 18, girlbear		4.39	10-22	-2.59*
				20-22	8.80***
				18-22	3.47**
				10-20	-11.64***
				10-18	-6.69***
				18-20	-5.65***
White, male teen/undergrad	Image 17, gay attack-	-	4.57	17-28	4.35***
	Image 28, maleunder	+	3.83		
Black, female undergrad	Image 11, collegesoft-	-	3.28	11-41	-12.26***
	Image 41, scaredwoman	-	5.17		
White, female, thirties	Image 25, katrinaneg-	-	3.49	25-44	-.089
	Image 44, susanpos	+	3.51		
	Image 26, katrinapos-	+	3.70	25-43	-3.34***
	Image 43, susanneg	-	3.83	26-44	1.95
				43-44	2.64**
				26-43	-1.27
Black, female, thirties	Image 34, michelleneg-	-	3.47	34-50	-5.48***
	Image 50, zambia-	-	5.60	5-34	2.61**
	Image 5, blackwomansad	-	3.82	5-50	-11.69***
White, male, early-mid thirties	Image 4, babbontrans-	+	3.82	4-30	4.14***
	Image 30, markneg	-	3.31		
	Image 14, markpos-	+	3.41	14-38	-3.83***
	Image 38, sadman-	-	3.89	14-35	1.31
	Image 35, nathanneg-	-	3.25	14-36	-1.38
	Image 36, nathanpos	+	3.56	35-38	-5.52***
				36-38	-2.47*
White, female, middle-aged	Image 37, patneg-	-	3.62	37-49	-3.48***
	Image 49, woman cry	-	4.03		

White, male, middle-aged	Image 47, tonyneg	-	3.13	29-47	1.62
	Image 29, marijuana	neutral	3.31		
Black, male, middle-aged	Image 3, angryacel-	-	3.59	3-24	.023
	Image 2, acelsad-	-	3.99	2-24	3.28***
	Image 24, inkypos	+	3.59		
	Image 1, acelpos-	+	3.68	1-23	1.35
	Image 23, inkyneg	-	3.52		
Black, male, elderly	Image 42, scowlingman-	-	3.85	42-45	-2.37*
	Image 45, tanzania	+	4.14		

* significant at the $p < .05$ level

** significant at the $p < .01$ level

*** significant at the $p < .001$ level

Compassion rating comparisons: affect comparisons

A closer analysis of the comparisons in Table 1 revealed that images displaying sad or scared negative affect always received higher compassion ratings than images with happy affect and those with negative, angry affect. In addition, with few exceptions,[13] the combination of positive, happy affect and negative, angry affect yielded significantly higher compassion ratings for images with positive, happy affect. Thus a rank ordering of types of facial affect in terms of their ability to elicit compassionate response would be: negative (sad, scared), positive (happy), and negative (angry).

Compassion rating comparisons: demographic comparisons

Differences in compassion ratings across demographic categories also emerged.

Table 2:
Rank Order Comparison of Means by Demographic Category

Demographic category	Category Means
White, male infant	5.83
Black, male child	5.21
Black, female child	5.17
White, male child	5.16
Ethnic, female teen	5.02
White, female teen/undergrad	4.32
Black, female, thirties	4.30
Black, female undergrad	4.23

White, male teen/undergrad	4.20
Black, male, elderly	4.00
Black, male teen	3.94
White, female, middle-aged	3.83
Black, male, middle-aged	3.67
White, female, thirties	3.63
White, male, early-mid thirties	3.54
White, male, middle-aged	3.22

As Table 2 shows, compassion rating comparisons for children and teenage/undergrad females had some of highest mean compassion ratings of all the demographic categories. Meanwhile white men in two age categories, early-mid thirties and middle-aged, received some of the lowest compassion ratings.

Individual Differences: Perceptions of Risk, Knowledge, Perspective-Taking

The survey also included measures of individual differences such as perceptions of personal risk of disease contraction, knowledge of and experience with the diseases, and perspective-taking.[14] Because significant differences in compassion ratings emerged for the images tested, however, these measures and scales were not used in the analysis.

Conclusion

As part of the larger goal to extend research on the effects of a message's visual elements, this study had two specific goals. One was to contribute to our understanding of the relative influence of the verbal and visual elements of a message. Another was to explore the conditions under which difference in compassionate response emerge as a function of facial affect (i.e. negative and positive facial displays of emotion).

With regard to the elements of a message that elicit compassion, visual portrayals of demographically similar people produced significant differences in compassion ratings as a function of facial display of emotion. Closer analyses showed that negative (sad, scared) facial affect elicited higher compassion ratings than either positive (happy) or negative (angry) facial affect. Meanwhile positive (happy) expressions received higher compassion ratings than negative (angry) ones. Informal debriefing interviews with subjects bolstered this finding, with subjects reporting that they gave higher ratings to images of people who were crying or sad-looking, and lower compassion ratings to images of people who were angry or scowling. Subjects reported mixed compassion ratings for images of people with positive displays of emotion, such as smiling. Some rated these images higher, expressing admiration for the person's bravery or positive attitude. Others rated positive facial displays lower, with some describing the facial display as an inappropriate response to the person's circumstances. While more in-depth analyses were beyond the scope of this study, these findings merit further exploration.

Furthermore, a rank order of compassion means by demographic category showed that children and teenage/undergrad females tended to receive the highest compassion ratings across all of the demographic categories tested. Intuition suggests that these differences may be a result of lower attributions of responsibility: Children and younger women are seen as less responsible for disease contraction. This idea could be tested in further research by comparing attributions of responsibility across images.

With regard to the relative influence of the visual and verbal components of the message, this study suggests that people's emotional response to the images seemed to override the influence of an accompanying text label that identified the person portrayed as either an AIDS or leukemia patient. Strengthening this claim is the fact that previous research has established that these disease populations have a priori differences in the way they are perceived: People with leukemia are seen as less responsible for their condition, and are viewed more compassionately (Levin & Chapman, 1990, 1993; Bennett, 2001).

Finally, the study contributed to our ability to measure compassionate response by validating a compassion scale developed by Bennett (2001): While previous studies using the scale had only tested textual stimuli, this study showed that differences in compassion ratings emerged as a function of facial display of emotion.

Suggestions for Further Research

This study's findings suggest some interesting possibilities for further research. One would be to use a sophisticated facial affect coding scheme (e.g. Ekman & Friesen, 1975) to conduct more fine-grained analyses of specific facial features in affect displays that elicit higher and lower compassion ratings. It could also be used to establish patterns of similarities and differences in facial affect that produce change across the range of emotional response.

In addition, the role of attributions of responsibility in compassion needs elaboration. A design that included measures of attributions of responsibility along with measures of emotional response would shed light on the extent to which attributions of responsibility may mediate or otherwise influence compassionate response. The relationship between facial affect and attributions of responsibility could also be explored. For example, extrapolating from the patterns of compassionate response: does sad affect lead to lower perceptions of responsibility, happy affect to mixed, and angry affect to higher perceptions of responsibility? Further studies could test this idea.

Overall, the results of this study have practical as well as theoretical implications, particularly for the design of messages intended to promote prosocial behavior. In this context, understanding the elements of a message that link an individual's self interest to the interest of others is crucial. Compassionate response can facilitate this emotional link, and visual elements in messages may be the most effective means to elicit it.

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[1] Ekman and Friesen (1975) have identified six universally recognized facial displays of emotion: happiness, sadness, fear, anger, surprise, and disgust.

[2] The grammar includes distancing, disclaiming, and displacing (see e.g. Cappella & Jamieson, 1994).

[3] One subject did not provide this information.

[4] A regular mouse and keyboard were used.

[5] This software is available at: http://www.empirisoft.com/. The author thanks software creator Blair Jarvis for his invaluable assistance with the program.

[6] Each subject saw each of the fifty image four times, with a separate screen and rating scale for each of the four compassion scale items. This design reflects the constraints of the MediaLab program.

[7] Unfortunately this number was inflated, because the search term also included variations on the word aids, such as 'aid' and 'aiding.' The search was limited to the first 1,000 images (sorted by relevance).

[8] E.g. Magic Johnson for AIDS; Tom Landry for leukemia.

[9] Based on general perceptual groupings.

[10] "Infant" was used rather than "child" because the image was of a newborn, less than two months old, while the children pictured were roughly between three and ten.

[11] Two-tailed t-tests were used for all analyses in this study.

[12] In each instance, the same image received significantly higher compassion ratings with an AIDS versus a leukemia label.

[13] The six exceptions were: White, male child: Images 48 and 6; White, female, thirties: Images 25 and 44, Images 26 and 43; White, male, early-mid thirties: Images 14 and 35; and Black, male, middle-aged: Images 3 and 24, Images 1 and 23. Four of these comparisons had compassion ratings in the right direction, but the differences were not significant.

[14] The perspective-taking scale was modified from Stiff et al. (1988, 204), using only the twelve perspective taking and empathic concern measures for which Davis (1983) provides evidence of construct validity and structural quality. Prior to conducting a reliability analysis for the perspective-taking scale, four of the twelve items were reverse-coded (see items marked with asterisks in the complete survey presented in Appendix A). The alpha for this 12-item scale was .80.

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A Study of the Persuasiveness of Animation when used as Forensic Demonstrative Evidence

by

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A Study of the Persuasiveness of Animation when used as Forensic Demonstrative Evidence

Forensic animation found its way into the courtroom in 1984, when a physicist named Arthur Damask made the first computer animation of a fatal car accident (Morrison, 1994). Today, forensic animation is occasionally used as a demonstrative aid to present the technical aspects of a court case in an accurate manner. While some judges believe that animation is useful in assisting the expert witness, other judges believe that animation is highly persuasive and consequently impacts the judgment of the jury. As a result, forensic animation is considered inadmissible in some courtrooms. R. H. Bo Hitchcock, a Florida lawyer, is one of many individuals in the legal field who believes that the persuasive impact on the jury is too high. "'Our society is conditioned to the idea that, if it's on TV, it's got some validity'" (Hawaleshka, 1995, p. 61). For example, in 1989 a 16-year-old boy who suffered from a torn artery and subsequent stroke claimed that a roller coaster ride at the local amusement park had caused the injury. After viewing a 15-minute animation prepared by the plaintiff, a Texas jury ruled in favor of the boy. According to one of the jury members "without the animations and an understanding of g forces and thrombosis, he would have voted for dismissal" (Stix, 1991, p. 142). "'It is an evil device of reconstructing an event in the way in which the prosecutor wants it reconstructed," says Toronto defense lawyer Edward Greenspan. "There's an aura of infallibility when a jury sees a televised re-enactment'" (Hawaleshka, 1995, p. 60).

In 1997, Saul M. Kassin and Meghan A. Dunn addressed the issue of persuasion in their study *Computer-Animated Displays and the Jury: Facilitative and Prejudicial Effects.* They discovered that "when the plaintiff and defense used the tape to depict their own partisan theories, participants increasingly made judgments that contradicted the physical evidence" (Kassin et al.,1997, p. 269). The results of this study showed that jury members are more likely to believe a persuasive animation than the actual physical evidence. Given Kassin and Dunn's results, the purpose of this research paper is to determine through user testing that the dynamic nature of animation affects its persuasiveness. Here, the term dynamic refers to the movement of the objects in an animation.

Motion is the key design variable which differentiates an animation from a poster or diagram. Unlike posters or diagrams which allow jury members to evaluate an array of data at their own pace and in their own manner, animation is linearly based. It presents data in a timed sequence that forces the jury members to correlate their personal rate of editing, personalizing, reasoning, and understanding to the speed of the animation. As a result, the jury members are forced to comprehend a story model of the incident. In Nancy Pennington and Raid Hastie's 1992 study, it was found that ". . . when evidence is organized by stories, subjects make more decisions in the story direction compared with when the evidence is organized by the witness" (Pennington et al., 1992, p. 202). Jurors are more likely to believe trial information when it is composed into a narrative story than if the information is categorically organized. Because animation is linear, it generates a story model full of vivid imagery with a beginning, a middle, and an end. When used as demonstrative evidence, the trial information is presented in a temporal or causal order within a timed sequence. It selectively summarizes evidence that was presented in a disconnected manner over a duration of several days and vividly plays it back to the jury. It is hypothesized that this trait makes it easier for the jury to remember the animation over other visual forms of evidence.

METHOD

Participants and Design

One hundred students and non-students were recruited to participate. Participants were randomly assigned to one of five cells (20 in each cell) which consisted of a control (transcript only) node, a transcript with a pro-prosecution animation node, a transcript with a pro-

prosecution video stills node, a transcript with a pro-defense animation node, and a transcript with a pro-defense video stills node. In the pro-prosecution nodes, the visuals accurately depicted the physical evidence. In the pro-defense nodes, the visuals contradicted the physical evidence. Specifically, the trajectory of the bullet in the pro-defense visuals appears to go upward through Mr. Bennett's chest rather than downward. The participants tested in small groups ranging in size from 1 to 6.

Test Materials

The test materials in this study included a court transcript, a television monitor, a video cassette recorder, a videotape containing a pro-prosecution and a pro-defense animation, ten display boards containing video-still images that were taken from the animations, and a three-page questionnaire.

The court transcript was a seven page document of a murder trial entitled: *The People v. Marcia Bennett* . The case involves a domestic dispute in which Marcia Bennett shot and killed her husband, Ted Bennett. The prosecution's stance on this case was that Mrs. Bennett intentionally shot and killed her husband because he was having an affair with another woman. The defense stated that the affair and other factors in her life pushed Mrs. Bennett into a deep depression. Ted Bennett entered the room when his wife was attempting to commit suicide; he tried to wrestle the gun away from her and was accidentally shot and killed in the process. The physical evidence included a bullet in the west wall of the bedroom and Ted Bennett's body which was found face down with a bullet wound through his hand and in his chest. During the trial, two conflicting testimonies were given by two expert witnesses (coroner's physicians). The first witness claimed that the first bullet missed Ted Bennett. In a defensive reaction, Mr. Bennett raised his hand to cover himself while the second bullet passed through his hand and entered his chest. The witness based this claim on the fact that a piece of tissue from Mr. Bennett's hand was found in his chest. The second witness discounted the first witness' discovery by stating that the tissue found in Mr. Bennett's chest wound was burned beyond recognition. He believed that Mr. Bennett's first wound was caused by placing his hand over the barrel of the gun. After penetrating his hand, the first bullet entered the west wall. The second bullet simply entered his chest. To ensure that the evidence in this case was physically accurate, a medical doctor and a ballistics expert reviewed and approved this transcript. Overall, the transcript consisted of opening statements, the examination of five witnesses and the judge's instructions concerning the requirements of proof. The participants were required to read the court transcript prior to answering the questionnaire.

A television monitor and a video cassette recorder were used to display the pro-plaintiff and pro-defense animations to the *animation group*. The animation was created by myself and reviewed by a forensic animator. The models that were included in the animation represented Marcia Bennett, Ted Bennett, a .32 caliber pistol, a bedroom, and several pieces of furniture (a bed, a dresser, a vanity table, a night stand, and a lamp). The viewpoints were identical in the pro-plaintiff and the pro-defense animations. Both animations included a bird's-eye view of the bedroom showing the location of the west wall, and a perspective view showing both Mr. and Mrs. Bennett from the side. The pro-defense animation also included a close-up of Mr. and Mrs. Bennett struggling over the gun with lines representing the trajectories of the bullets. The pro-prosecution animation included a replay of Mrs. Bennett shooting Mr. Bennett with lines representing the trajectories of the bullets as well as a close-up of the bullet hitting Mr. Bennett's hand and entering his chest. After the animations were completed, they were transferred to a videotape and later displayed to the animation group.

The display boards presented pro-plaintiff and pro-defense images taken from the animations. Each display board contained one video-still taken from the animation. A total of five video-stills were shown to both the pro-plaintiff and the pro-defense groups. The pro-plaintiff display boards included a bird's-eye view of the bedroom showing the location of the west wall, a perspective view showing Mrs. Bennett shooting the west wall, and a perspective view showing Mrs. Bennett shooting Mr. Bennett in the hand and chest, a close-up of the bullet hitting Mr. Bennett's hand and entering his chest, and the wounds on Mr. Bennett's body. The pro-defense display boards included a bird's eye view of the bedroom showing the location of the west wall, a perspective view of Mr. Bennett grabbing the gun while Mrs. Bennett is attempting suicide, a close-up of Mrs. Bennett shooting Mr. Bennett in the hand, a close-up of Mrs. Bennett shooting Mr. Bennett in the chest, and the wounds on Mr. Bennett's body. The boards are 8.5 x 11 inches and were shown to the *video-stills* group. Each board was held in front of the participants for approximately five seconds and then placed face-down on a table. A questionnaire was used to obtain demographic information about the participants (for example, male or female?, age?, etc.) as well as specific information related to the case. The format for the questions were based on a Likert type of scaling. This scale was used to determine the relative intensity of the participant's answers and to calculate the average index score for those who agree with each individual question. The entire study was conducted in a classroom at Iowa State University.

Procedure

The participants were instructed to play the role of jurors in a recreation of a court trial. As such, they read a transcript of a murder case and filled out a questionnaire individually and without deliberation. After reading the transcript, participants in the *control group* were instructed to complete a three-page questionnaire individually and without deliberation. Participants in *the animation group* were shown a short animation that depicts either the prosecution or the defendant's theory of what happened based on an expert witness' testimony. Then they were instructed to complete a three-page questionnaire individually and without deliberation. Participants in *the video stills group* were shown individual images taken from the animation that illustrates either the prosecution or the defendant's theory of what happened based on an expert witness' testimony. Afterwards, the participants were instructed to complete a three-page questionnaire individually and without deliberation. Both the animation and the video stills were introduced in the pro-prosecution and pro-defendant scenarios as follows: "The (prosecution's or defense's) team used computer (animation or illustration) to recreate what they think actually happened. The (animation or images) you will see represent(s) their theory of the event."

The three-page questionnaire asks the participants to render a verdict for the plaintiff or the defense and rate the confidence in that verdict on a 0-10-point scale (0 = not at all, 10 = very confident). To examine the impact the animated display and the video stills had on the verdicts, 9 key items of evidence were taken from the trial: Marcia Bennett's mental and emotional state; the location of Ted Bennett's body; Ted Bennett's affair; the bullet in the west wall; the bloodstain on Marcia Bennett's blouse and the bruise on her lip; the suicide note Marcia Bennett submitted to Detective Logan; the wounds on Ted Bennett's body; Doctor Anderson's testimony; and Doctor Chin's testimony. Each item was then rated on a 0-10 point scale by the participants concerning the importance each item had toward their verdicts. An additional item (the computer-generated reconstruction of Ted Bennett's death) was rated by the animation group and the video stills group.

Because there was a probability that all of the participants would rule a guilty verdict, additional questions were asked to help determine if animation and the video stills affected how guilty the participants perceived the defendant to be. To examine the impact the animated display and the video stills had on the perceived probability that Marcia Bennett committed the crime, the participants were asked two questions: (1) based on a 0-100-point scale (in multiples of five), "What do you think is the likelihood that Marcia Bennett committed the crime?" and (2) "The defendant should be found guilty if there is at least a ___% chance that she committed the crime."

To examine how animation and the video stills affect the severity of the sentencing, participants were asked to assume that the defendant was guilty and make a recommendation for the sentence. The first question asked, "If the defendant was guilty, how severe do you think the sentence should be?" based on a 0-10-point scale (0 = minimum sentence allowed by law, and 10 = maximum sentence allowed by law). The second question presented a choice of specific alternatives for the sentence (14-20 years; 21-30 years; 31-40 years; life imprisonment; death penalty).

The demographic questions included questions on age, sex, education, the participant's major, the average number of hours the individual watches television per day, and if English is his or her second language.

After completing the questionnaire, the participants were thanked, and for their participation in the study.

RESULTS

It was predicted that regardless of whether the visuals were consistent with or inconsistent with the physical evidence, more participants would rule in favor of the pro-prosecution or pro-defense animation than in the pro-prosecution and pro-defense video stills group. It was also predicted that the animations would be more persuasive than the other visuals because they tend to generate a stronger mental story model which becomes readily available for participants when they attempt to recall how the events in a specific case unfolded.

Based on the participant's judgment on whether the incident was an accident or a murder, the results partially support this hypothesis. As shown in Figure 1, 30% of the participants in the control condition judged the death of Mr. Bennett as murder. In the pro-prosecution/stills group, 45% of the participants judged the death a murder. And in the pro-prosecution/animation group, 65% of the participants judged the death a murder.

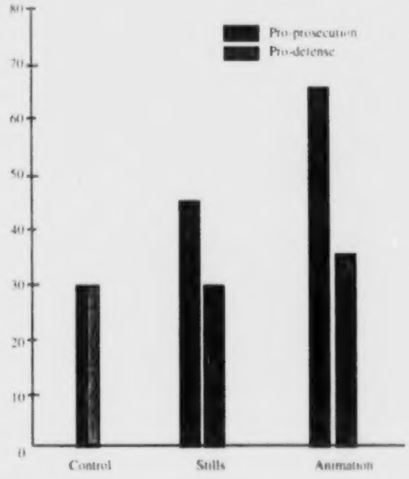

Figure 1 Percentage of participants who judged the death of Mr. Bennett a murder rather than an accident.

Of these results, only the pro-prosecution animation cell produced statistically significant results. The observed value of $\chi2$ (1), 4.91, for the pro-prosecution animation cell is greater than the critical value, 3.841. Therefore, it is safe to conclude that there is a relationship between the pro-prosecution animation and the number of murder judgments. The observed value of $\chi2$ (1), 1.1307, for the pro-prosecution stills cell is less than the critical value, 3.841. Therefore, there appears to be no relationship between the pro-prosecution stills and the number of murder judgments. Though these results in Figure 1 seem to show that the use of visuals increased the number of participants who favor the prosecution's version of the case, it is only the pro-prosecution animation cell that supports the facilitation hypothesis. The facilitation hypothesis states that visuals can "facilitate decision making by increasing the extent to which jurors render verdicts consistent with the physical evidence" (Kassin et al., 1997). It is also important to note that there is a 20% increase in favorable rulings when the images are animated. Because this result is statistically insignificant, it is difficult to determine if the dynamic nature of the pro-prosecution animation is more persuasive than a static visual.

The results also did not seem to show an increase in the number of participants who favored the defense's version of the case. In the pro-defense/stills group, 30% of the participants favored the prosecution's version of the case. In the pro-defense/video group, 35% of the participants favored the prosecution's version. It was expected that these numbers would be lower than the 30% favorability ruling from the control condition. It is uncertain what the exact cause of these results is. Instead of decreasing or increasing the number of rulings that favor the defense's version of the case, the visuals seemed to have had no effect. Despite viewing visuals that contradicted the physical evidence, 70% of the participants in the pro- defense/stills group and 65% of the participants in the pro-defense/video group still favored the defense's version of the case. This result could support the theory that both the stills and the animated visuals persuaded the participants to ignore the physical evidence and rule in favor of the defense. The result could also mean that the visuals used in this study were not persuasive enough to produce a favorable ruling higher than 70%. In fact, instead of increasing, the results dropped 5% in the animation cell. Both theories, however, are inconclusive.

To obtain a more sensitive measure, the participants were then asked to rate their confidence on the pro-accident/pro-murder ruling. Positive values were given to accident rulings and negative values were given to murder rulings. Therefore, the scores ranged from +10 (accident rulings) to -10 (murder rulings). The result as shown in Figure 2 illustrates the confidence in seeing the death as an accident or a murder. The control condition had a mean confidence level of 1.9. The decrease in the mean confidence level in the pro-prosecution cells (.1 in the stills group and -2.3 in the animation group) clearly shows an increase in the confidence that the death was a murder. The slight increase in the pro-defense stills confidence levels (2.4) and the slight increase in the pro-defense animation confidence levels (2.1) seems to show that the pro-defense stills increased pro-accident confidence slightly more than the pro-defense animation does. Again, the only statistically significant result of this measure is in the pro-prosecution animation cell. Because the observed value of t, 1.974, is greater than the critical value, +1.688, it is safe to conclude that the pro-prosecution animation did increase the participant's confidence that Mrs. Bennett intentionally murdered her husband. However, because the difference between the pro-prosecution stills cell and the pro-prosecution animation cell is not statistically significant, it is difficult to determine if the dynamic nature of the pro-prosecution animation affected confidence levels more than a static visual. One interesting aspect of this measure is that the pro-defense visuals did slightly increase confidence levels in favor of the defense even though the visuals contradicted the physical evidence. Though this result is not statistically significant, when comparing these results with the results in Figure 1, it appears that even though the visuals initially did not seem to have any affect on the participants in the pro-defense cells the results of this measure show that the visuals did have a positive effect on the pro-defense participants. This observation, however, is clearly speculative. It is not statistically conclusive in any way.

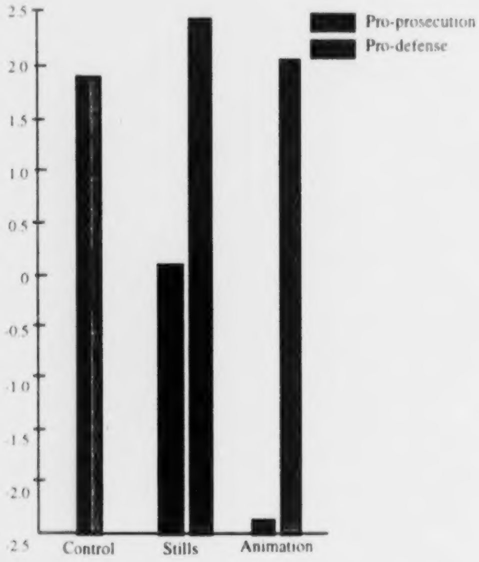

Figure 2 Mean confidence level of participants who judged the death of Mr. Bennett an accident rather than a murder. Positive values represent pro-accident rulings, negative values represent pro-murder rulings.

On a different measure, the severity of the sentencing seemed to increase when visuals were shown. Participants were asked: "If the defendant was guilty, how severe do you think the sentence should be?" based on a 0-10-point scale (0 = minimum sentence allowed by law, and

10 = maximum sentence allowed by law). As shown in Figure 3, The transcript-only cell submitted a mean of 4.8. The pro-defense/stills and the pro-defense/video cells submitted a mean of 5.9 and 6.05 respectively. The pro-prosecution/stills and the pro-prosecution/video cells submitted a mean of 6.55 and 6.85 respectively. The only significant result in this measure was again in the pro-prosecution animation cell. Because the observed value of *t*, 1.985, is greater than the critical value, +1.688, it's safe to conclude that the pro-prosecution animation did increase the severity of Mrs. Bennett's sentence if the jury found her guilty. It is also important to note that there was an increase in severity in both the pro-prosecution and the pro-defense cells. Though this increase is not statistically significant, it does seems to show that, regardless of whether they support the prosecution or the defense's theory, they do in fact have a positive impact on the severity of the sentence awarded to the defendant. Again, this observation is clearly speculative and is not statistically conclusive in any way.

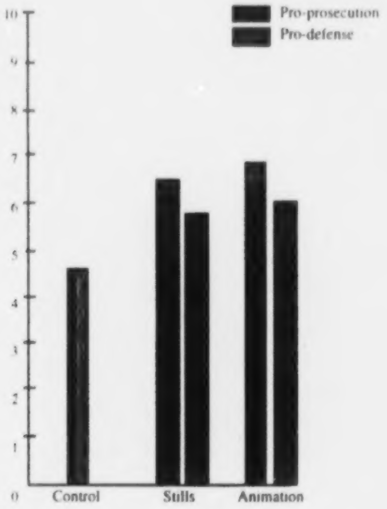

Figure 3 Mean severity of sentencing if Mrs. Bennett was found guilty.

The results of the participant's verdicts partially supported the hypothesis of this study. In the control condition, 30% of the participants ruled in favor of the prosecution. In both the pro-

prosecution video and the pro-prosecution stills cells, 55% of the participants ruled in favor of the prosecution. Though this result is not statistically significant, it does seems to show that despite the higher confidence levels that the death was a murder and that Mrs. Bennett did indeed commit the crime in the pro-prosecution video group (see Figure 2 and Figure 4), the actual number of participants who ruled in favor of the prosecution turned out to be the same as in the pro-prosecution stills group. Also, when you compare the results of this measure with the number of participants who judged the death a murder (see Figure 1), there was a 10% fluctuation in the pro-prosecution cells and a 15% fluctuation in the pro-defense stills cell.

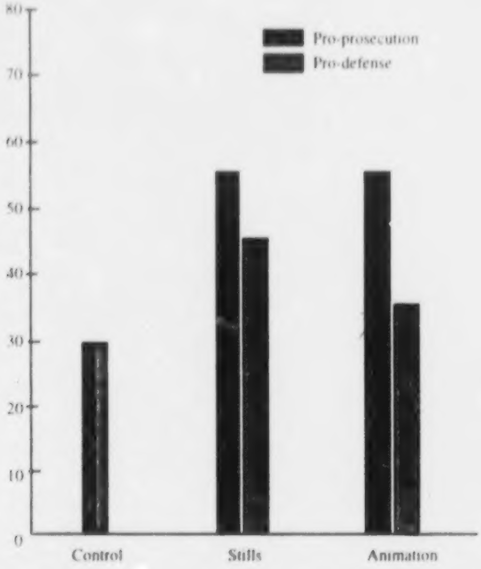

Figure 4 Percentage of Prosecution Judgments

One possible explanation for this fluctuation is that individual biases may have over ruled the acceptance that the death was a murder. In other words, some of the participants may have ruled in favor of Mrs. Bennett even though they have accepted the prosecution's claim the she murdered her husband. This observation, however is inconclusive. It is also inconclusive as to whether the visuals that contradicted the physical evidence had either a positive or a negative impact on the participants. Instead of persuading the participants to rule in favor of the defense or the prosecution, the visuals seemed to have had no effect.

To obtain a more sensitive measure on the verdicts, the participants were asked to rate their confidence on the pro-prosecution/pro-defense verdict. Positive values were given to pro-defense verdicts and negative values were given to pro-prosecution verdicts. Therefore, the scores ranged from +10 (defense verdict) to -10 (prosecution verdict). The result as shown in Figure 5 illustrates the confidence in the pro-prosecution and pro-defense verdicts.

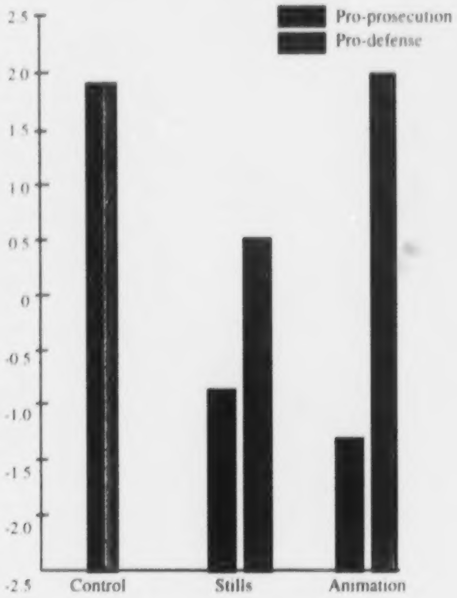

Figure 5 Mean Confidence in Verdicts

The only significant result in this measure was in the pro-prosecution animation cell. Because the observed value of *t*, 1.705, is greater than the critical value, +1.688, it is safe to conclude that the pro-prosecution animation did increase the participant's confidence in submitting a guilty verdict. It is important to note that even though the percentage of prosecution judgments in Figure 4 for the pro-prosecution stills and the pro-prosecution animation cells are equal, it is only the pro-prosecution animation cell in Figure 5 that produced a significant confidence level in a guilty verdict. Another interesting aspect of this measure is that the animation cells seemed to produce higher confidence levels than the stills cells. The cause of this result is inconclusive. However, one theory is based on the *story model hypothesis*. The animations may have helped the participants organize the trial information into a cohesive story, which was easier for them to recall and believe in regardless of whether the animation was accurate or not.

When the participants were asked to rank the impact of the visuals and other items of evidence there was no significant interaction or effect involving the visuals on evidence ratings. This measure replicated Saul Kassin and Meghan Dunn's results in that the visuals did not lead the participants to view other items of evidence as less important.

There was also no significant result when the participants were asked to rank the perceived probability that Mrs. Bennett committed the crime.

CONCLUSION

After evaluating the existing research on heuristics and visual persuasion, it was predicted that the dynamic nature of computer animated displays is the key design variable that makes forensic animation persuasive to jury members. Therefore, when comparing animated displays with still images, regardless of whether they were consistent with or inconsistent with the physical evidence, the animated displays should show signs of persuasion.

The results of this study partially supported this hypothesis. Of all of the visuals shown, only the pro-prosecution animation seemed to produce a significant result on the participants confidence levels. The pro-prosecution animation generated a significant increase in confidence that Mr. Bennett was intentionally murdered and that Mrs. Bennett should be found guilty. Also, the pro-prosecution animation was the only visual that produced a significant increase in the number of participants who judged the death of Mr. Bennett as a murder rather than an accident. These results support Kassin and Dunn's *Facilitation Hypothesis* (Kassin et al.

1997, p.279) in that the animated display which accurately represented the physical evidence improved judgment by increasing the pro-prosecution confidence levels and increasing the number of murder rulings. These results also support the hypothesis since the only significant results were in the pro-prosecution animation cells. The stills cells did not produce any significant results. Therefore, it does appear that the dynamic nature of the pro-prosecution animation makes it more persuasive.

While all of the measures in this study support the hypothesis (as shown in **table 1**, **3**, **4**, and **6**), the actual verdicts that the participants submitted did not. In the accident/murder measure, the pro-prosecution animation produced a significant increase in the number of pro-murder judgments. In the verdict measure (guilty/not guilty), the pro-prosecution animation did not produce a significant increase in the number of guilty verdicts. One possible reason for this result is that individual biases may have over-ruled the acceptance that the death was a murder. For example, even though some individuals believed that Mrs. Bennett intentionally killed her husband, they still ruled in favor of the defense because "he cheated on his wife and he deserved it." Even though the animation was persuasive in the accident/murder measure, it was not persuasive enough to generate a significant increase in guilty verdicts. Another reason for this result is that the animation was only shown once to the participants. In a typical court case, both the demonstrative and the substantive evidence is shown to the jurors several times which in turn helps strengthen the availability heuristic. When the evidence is repeatedly shown to the jurors it becomes easier for them to remember. As a result, the information is readily available for the jury members when they try to piece together an event. Because it was predicted that this result could occur, the accident/murder measure was added to this study in order to determine if persuasion did occur. Therefore, it is more important to note the results of the accident/murder measure than the results of the verdict measure. It is also important to note that when the participants were asked to rate their confidence in their verdict, the animation did produce a significant increase in the confidence that Mrs. Bennett was guilty. Again, this shows that the dynamic nature of the pro-prosecution animation had a persuasive impact on the participants.

The results in this study that did not support the hypothesis are in the pro-defense cells. In all of the measures, there seemed to be no change at all between the pro-defense visuals and the control group. The cause of this result is inconclusive. In the accident/murder measure, it is interesting to note that 70% of the pro-defense stills group and 65% of the pro-defense animation group submitted accident rulings despite viewing visuals that contradicted the physical evidence. One possible explanation is that the results for the defense could be conservative. It is possible that the participants in this measure were distrustful of the defense more than the prosecution because it appeared that the primary purpose of the defense is to fool the jury member into submitting a "not guilty" verdict. The primary cause of this distrust could be the fact that Mrs. Bennett didn't react in a shocked or surprised manner after she shot her husband in the animation. In fact, because there was no visual evidence of surprise or shock, Mrs. Bennett probably appeared to be a cold-hearted individual which in turn helped support the prosecution's argument. This is one of the flaws in this study. It is hypothesized that if Mrs. Bennett showed an emotional reaction after shooting her husband, the defense visuals could have had a more persuasive impact. However, because there was no change in the number of rulings between the visuals and the control group, it is not reasonable to conclude that the visuals which contradicted the physical evidence had a persuasive impact on the participants.

Based on these results, it is safe to conclude that when forensic animation is consistent with the physical evidence, it is the dynamic nature of the animation that makes it persuasive to jury members.

Despite this conclusion, it is important to note that one of the many limitations in this study is that it failed to produce a significant change between either the control and the stills cells or the stills and the animation cells. There have been many studies that have proved that visuals do have a persuasive impact. However, this study did not examine enough participants to produce any type of significant result in the stills cells.

A second limitation is the environment in which this study was conducted. Even though the participants were given written transcripts to avoid any type of persuasion (either non-verbal or though voice intonation) from an actual lawyer, the participants were not placed in an actual courtroom. By conducting the test in an informal classroom setting, it is possible that the participants reviewed the transcript in a more lighthearted manner than if they were actually serving on a jury.

A third limitation is that the participants were not given an opportunity to deliberate to a verdict. There is a possibility that a group discussion after reading the written testimony could nullify the persuasive impact the animation may have on the participants. Based on the Elaboration Likelihood Model, in deliberation the jurors could process the information in a central manner rather than a peripheral manner because of high motivation and high effort to submit a fair ruling. As a result, it could diminish the effectiveness of the animation. On the other hand, it is possible that the jurors could be overwhelmed with evidence in a more complex case causing them to process the information in a peripheral manner. Combined with repetition and the Availability Heuristic, the animations would be more effective in deliberation because the jurors would be more likely to passively accept the animation as a truthful and accurate representation of what happened.

Given these limitations and the social implications this type of study has, it is imperative that more research on this subject is conducted. Ideally, future research would involve allowing individual jury members to deliberate or perhaps conducting a study where one group was not allowed to deliberate and the other group was allowed to deliberate. It would also be beneficial to test the impact of other design variables such as color, time, perspective, lighting, and sound. The use of forensic animation in the courtroom is steadily increasing, yet only a few studies on the persuasive impact of forensic animation have been conducted. Although forensic animation can be a powerful tool to aid in a fair trial, if used incorrectly is can be a detriment to justice being served. As designers it is our responsibility to fully understand how powerful this medium can be.

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Southern Mentalities, Photographic Reflections In Black and White:

The 1915-1960 Mississippi Pictures of O.N. Pruitt

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ABSTRACT

Southern Mentalities, Photographic Reflections In Black and White:

The 1915-1960 Mississippi Pictures of O.N. Pruitt

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To explain race relations in the South during the last 170 years, historian Joel Williamson posits a template of three, Southern white mentalities: conservative, radical and liberal. These are reflected in photographs of O.N. Pruitt, who between 1915 and 1960 worked in Columbus, Mississippi. Regardless of which mentality is reflected, Pruitt, a white man, moved authoritatively in the worlds of black and white, rich and poor, documenting a complexity at once brutal and genteel.

Introduction

Two Photographs

A photograph, taken in the Columbus, Mississippi studio of O.N. Pruitt in the 1930s, shows a young man, Oscar West, posing for his portrait while sitting on a wooden barrel. He holds a worn broom with one hand; with the other, he rests a tweed cap on his knee. He looks directly at the camera. A quiet flame of pride burns in his eyes.

West was "the clean-up boy" for the Brown Buick-Cadillac Co., and he was the "manservant" for the Brown family. Yet, there he was, an African-American, in a photography studio operated by a white man. West is depicted in the same studio setting where prominent white leaders were often photographed as well, in this northeastern Mississippi county seat town along the Tombigbee River by the Alabama border.

Another photograph, from 1935: The bodies of two young African-American men hang lynched, side-by-side, by ropes from an oak tree. A white man, wearing a straw boater and kneeling with his back to the camera, gathers their pants' legs into his grasp to keep the bodies of Bert Moore and Dooley Morton steady for the picture. At least four thousand African-Americans, records show, were lynched in the United States between

1889 and 1946. Several lynchings were documented near Columbus, in surrounding Lowndes County, in the 1920s and 1930s.[1]

These two contrasting photographs taken by Otis Noel Pruitt—who lived from 1891 to 1967—represent the extremes of Southern white "mentalities" from the late nineteenth century and early twentieth century. The picture of West reflects an attitude of tolerance, of white liberalism; in the lynching, white radicalism is made manifest. Between those views resides the conservative white outlook.

Research Method: Three Mentalities

As a way to explain race relations in the South during the last 170 years, cultural historian Joel Williamson has posited a template of three, Southern white mentalities: conservative, radical and liberal. The conservative, according to Williamson, "preferred to let well enough alone. It was not aggressively anti-Negro, unless the Negro deserted his assigned place and that was always assumed to be somewhere safely below the place of white people." This attitude, dating from the 1830s, "is the long-running and mass mode of thought on race in the white South, and, stubborn at its core and subtly pliant on its surface, it persists strong and essentially unchanged even today."

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[1] Joel Williamson, *A Rage for Order* (Oxford, England, and New York: Oxford, University Press, 1986), 84-85. "Awful as they were, published statistics in the period undercounted the number of lynching," Williamson, page 122, *A Rage for Order*. See also "Two Negroes Pay For Act On Tree Limb. Lynching Marks Attempted Assault on White Lady," *The Commercial Dispatch*, Columbus, Mississippi, 15 July 1935, 1; "Lynch Episode Is Closed Here. Negroes Met Death at 'Hands of Unknown Parties' Is the Verdict," *The Commercial Dispatch*, Columbus, Mississippi, 16 July 1935, 1; Associated Press, "2 Negroes Lynched By Mississippi Mob," *The New York Times*, 16 July 1935, 40, and "Report Lynching Near Caledonia," *The Commercial Dispatch*, Columbus, Mississippi, 23 July 1933, 3.

The conservative view gave birth to the other two modes—extremes in either direction. The radical, according to Williamson, was the most pessimistic of the mentalities. This view held that freedom from slavery and the loss of the "protective" bondage by whites would result in African-Americans retrogressing to their "natural state of savagery and bestiality." The radical considered that African-Americans had "no place…in the future of America" and that they would disappear either through their own self-destruction or at the hands of radicals. The white liberal, however, was most optimistic about the potential of progress for African-Americans. Still, the Southern liberal stopped short of one Northern liberal view that considered even miscegenation as one solution to racial strife.[2]

These three mentalities have evolved and fluctuated since the 1830s when conservatism arose and then flourished until about 1880. At that point, Williamson says, liberalism developed and found energy in the success of African-Americans via the Reconstruction under the guidance of Northerners. Yet by 1889 radicals gained credence when, among other things, academics, including ones at prestigious institutions such as Harvard, shepherded the notion of an inherent "retrogression" among freed slaves.

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[2] Williamson, 70-73.

During the 1889 to 1915 period, the radical view dominated; its major expression was evidenced in lynchings. In radical strongholds such as Mississippi and Alabama, radicalism subsided more gradually. Indeed, the interplay of radicalism and conservatism continued for decades, and even as radicalism waned it still influenced the tone of race relations in the South throughout the entire time Pruitt worked in Mississippi.[3]

Using these strands of white mentalities, this paper will look at a representative sample of nine Pruitt images taken in the 1920s and 1930s[4]. In doing so, this paper also will bear in mind the critiques of such cultural and photographic scholars as Roland Barthes, Walter Benjamin, Jane Collins, Stuart Hall, bell hooks, Catherine Lutz, Alan Trachtenberg and Deborah Willis.

hooks particularly serves to remind us the vital role that visual images played in the black community. She writes:

> "In the world before racial integration there was a constant struggle on the part of black folks to create a counter-hegemonic world that would stand as visual resistance, challenging racist images. All colonized and subjugated people, who by way of resistance create an oppositional subculture within the framework of domination, recognize that the field of representation (how we see ourselves, how others see us) is a site of ongoing struggle…. Displaying those images in everyday life was a

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[3] Williamson, *The Crucible of Race* (New York and London: Oxford University Press, 1984), 4-8.

[4] The author is a co-owner of the Pruitt Collection. Possum Town Photographs, Inc. holds all copyrights.

> central as making them. The walls and walls of images in southern black homes were sites of resistance."[5]

Such resistance is evidenced in a limited manner in the Pruitt pictures, as is the radical viewpoint. White conservatism dominates, however, and this was also reflected in the local daily newspaper, *The Commercial Dispatch*. Editorials and news stories alike in the headlines and the body of stories in the 1920s and 1930s extol the virtues of "the sensible negro, the good negro, the worthy negro—of the old school."[6] The style of the era was to lowercase the "n" in negro when it appeared in the text of stories, making it not that dissimilar from the lower case n of the word nigger.[7]

During this time—the 1920s and 1930s—Columbus was essentially a half-white, half-black community of 10,000 residents. It was a growing agricultural market center for cotton, lumber, floral plants, honey and cattle. The Columbus Chamber of Commerce boasted in its brochure, entitled "Columbus, The Friendly City," that: "We have few major crimes in the county and 95 percent of the petty offenses are committed by our colored population."[8]

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[5] bell hooks, "In Our Glory," in *Picturing Us: African-American Identity in Photography*, ed. Deborah Willis, (New York: The New Press, 1994), 46.

[6] "Aged Negro With 47 Grand Children Dies at Trinity," *The Columbus Dispatch*, 23 January 1921, 1. "A Good Negro Gone," *The Commercial Dispatch*, 21 February 1935, 4.

[7] It would not be until the late 1960s that *The Commercial Dispatch* would capitalize the word Negro in stories. In headlines, the first letter was capitalized since the newspaper's style called for capitalization of the first letter in all words of headlines.

Research Questions

As its research questions this paper asks: Can we find evidence of the strands of conservatism, radicalism and liberals in Pruitt's photographs? As we ask that question, we will explore these nuances: What can the "gaze," or point of view, of Pruitt's camera tell us about his own racial sentiments and how does that gaze reflect life between the races in the community? How did the gaze of Pruitt's subjects themselves address the racial mentalities?

Preliminary research of Pruitt's life and of a sampling of thousands of photographs in the Pruitt Collection, which contains perhaps 50,000 images, suggest that the photographer fluctuated between the liberal and conservative mentalities. Yet, in practice, he mirrors each mentality. When he photographs African-Americans in their churches and homes, the subjects co-create the image with the photographer. This is also true in what must have been unusual in many respects in the segregated South: when he photographs African-Americans in his studio. This was happening in a town where for decades, even until the 1970s, "colored only" or "whites only" signs were posted in virtually every public place such as train and bus depots, hospital and physician waiting rooms and restaurants. Yet Pruitt invited blacks to his studio to photograph them, and he went to their houses to take their pictures, too. At the same time, he photographed a lynching and converted that image into a postcard that he apparently sold discreetly.[9]

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[8] *"Columbus, The Friendly City,"* undated brochure with pencil notation—circa 1932-34--in local history archival files at Columbus-Lowndes Public Library.

Mississippi's grand literary dame Eudora Welty, who from 1927 to 1929 lived as a college student in Columbus[10], once wrote glowingly about another Mississippi-connected photographer, William Eggleston, considered one of the foremost photographers working in color today. She said something that applies equally to the best of Pruitt. In her 1989 introduction to Eggleston's *Democratic Forest*, (referenced that year in the summation paragraph to John Szarkowski's *Photographs Until Now*), Welty wrote:

"He sets forth what makes up our ordinary world. What is there, however strange, can be accepted without question; familiarity will be what overwhelms us."[11]

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[9] Irene Pruitt Raper, taped interview with James P. Carnes, Columbus, Mississippi, October 1991, and Merle Fraser, taped interview with author, Columbus, Mississippi, June 1994.

[10] Welty attended Mississippi State University for Women as a freshman and sophomore, before transferring to University of Wisconsin where she completed her undergraduate degree. See Welty's *One Writer's Beginnings* (Cambridge, Mass. and London: Harvard University Press, 1984), 76-80.

From 1915 to 1960, Pruitt recorded the *actualités* in town: christenings and weddings, churches, river baptisms, ribbon cuttings, bridge and road construction as well as carnival sideshows, funerals, floods, fires, car wrecks and tornadoes. He took medical photographs to document for local physicians the ravages of disease. He recorded people showing off a string of fresh-caught bass, holding a broken off tree branch with a swarm of bees, or handling a live rattlesnake. His work emblematizes how small communities—the heart and soul of the South in the first half of the twentieth century—recorded and processed information about what occurred in daily life.[12]

Above all, what distinguishes his work, however, and what makes this study relevant—since none other has been done on Pruitt—is that he, with Linnaean completeness, documented one place at a critical time in history: World War I era to pre-Civil Rights era, small town Mississippi.

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[11] Eudora Welty, introduction to William Eggleston. *Democratic Forest* (New York: Doubleday, 1989), 10. Also cited in John Szarkowski, *Photography Until Now* (Boston and Toronto: Bullfinch Press of Little, Brown and Company), 1989, 293.

[12] Pruitt was not unlike many commercial photographers who worked in small towns during the 1920s and 1930s when the local newspapers did not have its own photographer. His photographs would on occasion appear in the news pages and in advertisements, too. In this era, *The Commercial Dispatch* was essentially the only local news medium for Columbus residents. Other newspapers from the "big cities:" Jackson, Memphis and Birmingham covered news from Northeast Mississippi but in a limited manner. Local radio news didn't become a fact of life until the 1940s.

Findings

Nine Photographs

In one respect, you do not need to know any more information other than what you can extract from the visual image in the nine photographs; nonetheless, to know something about who is in the photograph, or what or why they are doing can illuminate the image. For some of the photographs, research has yielded a substantial amount of information; for others, much more research must be done.

The dating of the photographs was undertaken partly by assessing whether the negatives are nitrate, glass plate used by Pruitt in the 1920s and 1930s, or safety film which he began to use in the late 1930s and 1940s. Oral history, automobiles, clothing, buildings and landscapes were also used to date the photographs. The negatives of these pictures are either 4x5 or 8x10.

In providing captions for these nine, it is useful to consider Walter Benjamin's comments about the caption and to recognize that to say a little, sometimes, is to say a lot. Much could be said about each of these photographs, all taken around the time Benjamin wrote an essay in 1931, "A Small History of Photography." Over the decades the essay has contributed to an on-going scholarly discussion of the relationship between words and pictures. In the essay, Benjamin cryptically refers to the importance of the caption. Acknowledging the technological advances of the early twentieth century camera, Benjamin says:

> "The camera is getting smaller and smaller, ever ready to capture fleeting and secret moments whose images paralyze the associative mechanisms in the beholder. This is where the caption comes in, whereby photography turns all life's relationships into literature, and without which all constructivist photography must remain arrested in the approximate....Is it not the task of the photographer—descendant of the augurs and haruspices—to... point out guilt in his pictures?...Will not the caption become the most important part of a photograph?"[13]

Also in that essay, his observations about society and the camera potentially can change how one looks at the Pruitt photographs. Referring to the medium as practiced in the mid-nineteenth century, Benjamin writes: "Everything about these early pictures was built to last; not only the incomparable groups in which people came together—and whose disappearance was surely one of the most telling symptoms of what was happening in society in the second half of the century—but the very creases in people's clothes have an air of permanence."[14]

Since historian Williamson proposes that the conservative ideology represented the dominant mode of Southern white thought, this discussion of the evidence of the mentalities begins with the conservative. Then we consider the radical view and the liberal outlook.

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[13] Benjamin, *One-Way Street and Other Writings,* trans. Edmund Jephcott and Kingsley Shorter (London: Harcourt Brace Jovanovich, 1978), 257. The essay's title sometimes is translated as "A Short History of Photography." Pruitt captioned his photographic records in a sparse manner, sometimes with little more than a date and name.

[14] Benjamin, 245.

The Conservative Mentality

1. Seven African-American bellhops & the white manager of the Gilmer Hotel, circa 1930s

For decades, the Gilmer Hotel was one of the central spots for the wealthy white power brokers in Columbus. It was a four-story hotel, made from bricks dug by hand by slaves in 1860 when Columbus boomed as a cotton town before the Civil War. The Gilmer was considered elegant for Mississippi. Heavyweight champion Jack Dempsey stayed at the Gilmer when he came to town in 1930. Years later, so did newsman Walter Cronkite.[15]

Once, occasional Gilmer guest William Faulkner wrote a semi-autobiographical piece in the April 1954 *Holiday* magazine, which refers to the Gilmer and moonshine whiskey. After leaving the hotel to go on a frightful car ride to a bootlegger's outside of town in the Alabama hills, Faulkner's personae concludes: "Lord, You know I haven't worried you in over forty years, and if You'll just get me back to Columbus I promise to never bother You again."[16]

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[15] See "Jack Dempsey" and "Gilmer Hotel" vertical file, local history archives of Columbus-Lowndes Public Library in Columbus, Mississippi.

[16] William Faulkner, "Mississippi," in *A Place Called Mississippi: Collected Narratives*, ed. Marion Barnwell (Jackson: University Press of Mississippi, 1997), 118-119.

The seven bellhops in the picture may have waited on Faulkner, Dempsey or Cronkite.

Here, with brassy buttons seeming to pop off their chests, the bellhops stand in varying states of attention and deference by the desk of the hotel's manager, a white man, J.O. Slaughter, who noticeably the only one who is seated. The manager seems about the same age or even younger than some of the bellhops.

Research has not yet revealed why the picture was taken, why the group members don't seem too jolly about having their picture taken or why no one looks at the camera. Blacks can be bellhops, but not hotel managers. This is a picture of conservatism.

That said, the bellhop who is second from the right is apparently Edward C. Bush. After World War Two ended, roughly a decade after this picture was taken, Bush and his wife Bessie Will renovated and cleaned up an old building in a residential neighborhood on the north side of Columbus. There, in 1947, they opened up the Queen City Hotel, at the time the only hotel in Mississippi available solely to African-Americans. Gilmer Hotel manager Slaughter helped them to secure a loan to open and stay in business. Guests such as Louis Armstrong, Little Richard and contralto Marian Anderson stayed at the Queen City. In a newspaper interview in January 2000, Bessie Bush said, "Armstrong or Little Richard would play at the [Queen City] dance hall or Union

Academy and people would be everywhere—sitting on the grounds, dancing in the street."[17]

2. Camel Ride at Locke's Zoo, circa late 1920s

The significant detail of this is the black man's hands holding the rope for the three white children. Likewise, the shapes of the little white boy in his cap, his body rakishly cocked into the neck of the camel, make the image visually compelling.

This photograph took place at the house of one of the richest white men in town, wholesale grocer Thomas Locke, who had a menagerie of animals which he called Locke's Zoo. Over the years, Pruitt took a number of photographs of Locke. Pruitt was even called to testify in a murder trial of Locke. In 1927 Locke shot and killed another white man, a prominent retail grocer. Locke's first night after being arrested he was allowed to stay in the Gilmer Hotel until his own bedroom set could be moved to the county jail. He bailed out of jail shortly after being taken there. He was exonerated in a jury trial[18]

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[17] "The Queen City and the Alexandria," *The Commercial Dispatch*, Columbus, Mississippi, 2 January 2000, 2C.

[18] "No Date Set For Hearing For Locke For Slaying Of Stevens," *The Commercial Dispatch*, Columbus, Mississippi, 27 December 1927, 1, and "Case Given to Jury Late Yesterday and Verdict Early Today," *The Commercial Dispatch*, Columbus, Mississippi, 21 September 1928, 1.

This is a conservative to radical picture. It is unclear why the black man wasn't included in the shot. Pruitt had a tripod and couldn't move it easily. Maybe he told the man leading the camel to walk in front of the camera, and maybe there are several more photographs, including ones with the man shown fully. Maybe Locke said he didn't want his "hired-hand" in the picture; yet the "hands" are there.

3. Fishermen, circa 1930s

Two African-American men stand in a long wooden boat filled with big spoon-billed catfish and gar. A white man, in the water next to another boat laden with fish, holds one by the gill, vertically, to enhance the display of his fish trophy. The two black men in the boat, one smiling, seem deferential. But their looks combined with the black man leaning against the tree suggest the statement: That white guy may have caught *that* fish, but he didn't catch them all. The detail of all four men's shadows seen reflected murkily in the water enhances the image. This is a conservative image.

4. Catfish Alley fire, circa 1940

For decades in the twentieth century, Catfish Alley was a one-block long strip of flourishing black businesses, including restaurants, pool halls, honky-tonks, black-run medical clinic and black doctors' offices. African-Americans could go to the clinic and be treated without having to bow-and-scrape at the two white hospitals. There were rooming houses on the second floor of some of the buildings, and they functioned like a mini-hotel. B.B. King and Louis Armstrong stayed here and performed here. In the photograph you can see under the Falstaff sign of the Blue Front Café No. 2: Colored Café. Behind that is a sign for Sykes Cab, an all-black cab service. Blacks and whites, many of them wearing hats and some of both races in overalls, are all mixed together in the chaotic fire scene. One white fireman apparently died in the fire, which started was in a restaurant. Playwright Tennessee Williams was born in St. Paul's Episcopal rectory, not shown but some 50 yards from the part of the street at the picture's bottom.

A product of segregation, Catfish Alley and its depiction here de-facto represents conservatism. Normally, Catfish Alley is a mainly a blacks-only locale; however, when there is a fire, white fireman and white on-lookers arrive on the scene.[19]

5. Sylvester Harris, March 1934

The caption of this picture in *The Commercial Dispatch* read this way:

"Sylvester Harris, negro of Lowndes County, Miss., has plenty to be happy about. Recently he telephoned President Roosevelt in a plea to save to his home from mortgage foreclosure, and a few days later an extension was granted on the mortgage. Here's Sylvester, with this mule, in front of his farmhouse near Columbus, Miss.[20]"

Harris was known as a good mule trader and mule breeder, and Pruitt makes a choice to include a mule. Harris is pictured in work clothes. He holds his hat in his hand, either because he considered that the proper thing to do or Pruitt asked him to do so because his face would show up better. Confident and comfortable before Pruitt's lens, Harris and his mule gaze directly at the camera. Chickens peck and flutter around in the background. The picture is framed so that Harris' house is well seen. The feel of this picture is conservative, on the border of liberal. This is a "worthy negro" who took a chance and succeeded. A Fox Movietone newsreel crew also came to town to record Harris' story.[21]

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[19] Ed Bush, Joe and Selma Hanna, and Bonnie Kimbrel interviews recorded by folklorist and photographer Mark Gooch, November 1974 to January 1975; copies in possession of the author. June 1994 interview by the author with Dr. E.J. Stringer, a civil rights leader who had a dental office on Catfish Alley.

The Radical Mentality

6. The execution of James Keaton, May 1934

Pruitt set up his lights, tripod and view camera early on Friday, 25 May 1934. He draped the camera's black cloth over his head to better see the upside down and backwards image that appeared on the ground glass. Shortly after 2 a.m., he pressed the shutter. This is the picture he took on nitrate, black-and-white film, 8 inches by 10 inches.

In the photograph six white law enforcement officials surround James Keaton, an African-American. From head-to-toe, Keaton is clearly depicted before his execution for murder. He has been convicted of killing a white service station owner. In one of the last executions in Mississippi by hanging at a local courthouse, Keaton wears bib overalls and

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[20] "He Telephoned the White House," *The Commercial Dispatch*, Columbus, Mississippi, 8 March 1934, 1.

[21] "Sylvester in Movies; Sound Reel Men Here," *The Commercial Dispatch*, Columbus, Mississippi, 6 March 1934, 1.

an open-collared, long sleeve shirt. At his feet, knees and chest, a leather strap binds his legs together. His hands are bound behind his back. The thick rope noose is loose around his neck and shown attached to the gallows. There is a ritual formality to the tableau. Sheriff Harry West, pictured on the right, smiles. Onlookers watch the spectacle from the open courthouse window behind; they lurk beneath the scaffold.[22]

Absent, however, from the photograph is District Attorney John C. Stennis. (As a Democrat, he later represented Mississippi in the U.S. Senate. From the 1940s to 1980s, he was a strident voice for "states rights," including the protection of a state's right to uphold racial segregation, without interference from the federal authorities.)[23]

Also absent are the African-Americans, including several preachers, who had sung spirituals for hours before the execution.

Keaton had been arrested in March 1934 for shooting service station owner Fred Hayslett, who had gone to his station "to get a drink" with some friends late one Sunday night after it had closed. The group of white men surprised Keaton, a former station employee, who was inside. A shooting occurred; the next month, an all-male, all-white jury found Keaton guilty. As was standard practice, presumably to avoid a lynching during confinement, Keaton was taken to an "unannounced jail" in nearby town for "safe-keeping."[24]

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[22] "Negro Slayer Is Hanged At Lowndes Jail," *The Commercial Dispatch*, Columbus, Mississippi, 25 May 1934, 1.

[23] "Murder Trial of Negro Set Friday Morn," *The Commercial Dispatch*, Columbus, Mississippi, 17 April 1934, 1.

In the photograph, a most telling detail is the look of Keaton, who at age twenty-two, faces death in minutes. He looks straight into the camera. Before a black execution cowl had been pulled over his head, he said: "Goodbye, everybody."[25]

A few minutes later, underneath the scaffold Pruitt documented what has become over the centuries a stereotypical image of executions and lynching: the mob gathered around the condemned man's body. Nineteen white men and boys crammed under the scaffold to be in the photograph with the body of Keaton, still suspended by a rope hanging through the opened trap door.[26]

Seven months earlier, Pruitt had recorded a similar execution at the Lowndes County Courthouse in Columbus. In that case as well, it was an African-American man convicted of killing a white farming couple. *The Commercial Dispatch* had editorialized that "the severest punishment would be too good" for the African-American defendant.

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[24] "Negro Held in Murder Of Fred Hayslett At Service Station Here," *The Commercial Dispatch*, Columbus, Mississippi, 5 March 1934, 1.

[25] "Negro Slayer Is Hanged At Lowndes Jail," *The Commercial Dispatch*, Columbus, Mississippi, 25 May 1934, 1.

[26] This photograph not included for review as part of this paper.

"He should be given a speedy trial and promptly made to pay the extreme penalty. Examples should be made of beasts in human form who commit such crimes." [27]

Perhaps it is "presentism" to say so, but the Keaton execution photograph represents a radical viewpoint, an attitude equivalent to one supportive of lynching. It is an outlook removed from a conservative one that suggests there is a place for African-Americans in Southern society.

7. The Lynching of Bert Moore and Dooley Morton, 1935

Sometime on a Monday, 15 July 1935, fourteen months after the Keaton execution, the telephone rang in Pruitt's home. Come quickly, he was told; there's been a lynching, a double lynching. With that, Pruitt, who always kept his bulky, view camera and tripod at the ready in his car trunk, sped down paved roads and then gravel ones, and headed south of town. [28] Soon, in a backwoods churchyard, he found two men—described as young "Negro farmers" in Associated Press accounts published around the nation—lynched from a big oak tree.[29]

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[27] "The Crosby Crime,"*The Commercial Dispatch*, Columbus, Mississippi, 13 July 1933, 4.

[28] The accounts of Pruitt's documenting the lynching, in part, were drawn from interviews, including one with his daughter, Irene Pruitt Raper. She was interviewed by James Carnes, in Columbus, Mississippi, October 1991. A recording of the interview is in possession of the author. The author between 1994-2000 conducted other interviews about the lynching with Columbus residents Merle Fraser, Eva Byrd Heard, Parker George, Sarah Lusk, Wilbern Sprayberry and Billy Thompson.

[29] The Associated Press, "2 Negroes Lynched By Mississippi Mob," *The New York Times*, 16 July 1935, 40. Note: The bound copies of *The Commercial Dispatch* at the newspaper's office in Columbus, Mississippi, have the lynching stories missing on the front pages on the Monday of the lynching, 15 July 1935, as well as the Tuesday after. Apparently the material was taken out with a knife or scissors.

Two African-American men, Bert Moore and Dooley Morton, had been accused of harassing a white woman.[30] They had been arrested and were being taken surreptitiously by a deputy sheriff to jail in a nearby town when a mob of 35 men overtook the deputy, seized the prisoners and drove to an African-American church south of Columbus. "Each was made to stand on top of an automobile with his hands tied behind him and a noose fastened around his neck," the Associated Press reported. "The ropes were knotted to the tree limbs and at a given signal the cars were driven out and the bodies swung downward."[31]

The wire service account also noted: "Columbus and Lowndes County were in a high state of excitement during the double lynching, but when the mob had dispersed they quieted down."[32] The next day, a Tuesday, the local newspaper reported this salient detail: hundreds of spectators came to look at the bodies of the lynched men before the

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Likewise, some microfilm records of the newspaper on those dates show the articles excised on those days. Other microfilm records fortunately contained the missing stories.

[30] The Pruitt images did not appear in the local newspaper. However, one of the lynching photographs was converted into a poster image for the Student Nonviolent Coordinating Committee in about 1965. See *Without Sanctuary* (Santa Fe: Twin Palms Press, 2000), figure 91 and endnote 91, 199-200. The information about the Columbus lynching is incomplete and also partially incorrect. For a discussion of executions in Mississippi see David M. Oshinsky, *Worse Than Slavery: Parchman Farm and the Ordeal of Jim Crow Justice*. (New York: Simon & Schuster, 1996).

[31] See also Stewart Tolnay and E.M. Beck, *A Festival of Violence: An Analysis of Southern Lynchings, 1882-1930*. (Urbana and Chicago: University of Illinois Press, 1995), ix. *The Mob Still Rides: A Review of the Lynching Record, 1931-1935.* Atlanta: Commission on Interracial Cooperation, 1936. On page 6 the Columbus lynching referenced.

[32] Associated Press, "2 Negroes Lynched By Mississippi Mob," 16 July 1935, *The New York Times*, 40.

bodies were cut down, more than 12 hours after the lynching occurred.[33]

That Pruitt was contacted to document this horrific event bespeaks volumes about his role in his community. It also addresses his professional ambidextrousness, his ability to blend into any and all situations.

In the lynching photograph, radicalism is explicit. Williamson writes, "Radicals insisted that there was no *place* for the Negro in the future American society, and, moreover, that his disappearance was imminent." [34]

The Liberal Mentality

Beginning with the post-Reconstruction South era, historian Williamson says, white liberalism "could contemplate with relative equanimity, if not outright pleasure, an eventual parity of Negroes with whites in the enjoyment of many—but never all—white cultural ideals." [35]

8. African-American family in their Sunday best, May 1941

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[33] "Two Negroes Pay For Act On Tree Limb. Lynching Marks Attempted Assault on White Lady," *The Commercial Dispatch*, Columbus, Mississippi, 15 July 1935, 1; "Lynch Episode Is Closed Here. Negroes Met Death at 'Hands of Unknown Parties' Is the Verdict," *The Commercial Dispatch*, Columbus, Mississippi, 16 July 1935, 1

[34] Williamson, *A Rage for Order*, 71-72.

[35] Williamson, *A Rage for Order*, 73.

This is a serious group, for the most part, the James Mann family. Certainly white and black folks alike gazed into the camera with a fair degree of seriousness in the Depression–era 1930s and early 1940s in Mississippi. There was not a lot to smile about. Here, the family group members have put chairs out in the grass to have their picture made. All twelve have dressed in their Sunday-go-to-meeting best. It seems Pruitt made a conscious choice to include a portion of the house in the background. This photograph gives the lie to the notion of the discombobulated black family. The looks on the faces of the people makes you want to know their stories. These are people who surely paid Pruitt to come to their house and make their family photograph. Pruitt's lens depicts them as they want to be depicted; not as white society wants to depict them. This represents a liberalism that says African-Americans can do great things, that they deserve a standing of more than separate-but-equal, rather as co-equals.[36]

Feminist bell hooks has discussed the gaze in talking about the role intimate family photographs play within the African-American community. These photographs, hooks writes, can reveal "a sense of how we looked when we were not 'wearing the mask,' when we were not attempting to perfect the image for a white supremacist gaze."[37] There are ways in which this family's picture exhibits the gaze of not wearing a mask.

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[36] The faded brown envelope containing this 8x10 negative only indicates the name of the family and the date of the photograph.

9. Oscar West, "cleanup boy" at Brown Buick Cadillac, circa 1930.

Posing for his studio portrait while sitting on a wooden barrel, Oscar West wears a worn leather jacket, the seams almost falling apart where the jacket looks as if it has been mended. A young man, he nonetheless is stoop-shouldered. With a direct gaze, he exhibits a confidence in his pose and comfort with the camera and with Pruitt. His turned-up, right foot reveals the underside of a worn shoe.

Although "the clean-up boy" for the Brown Buick-Cadillac and "manservant" for the Brown family, the African-American is photographed in a studio operated by a white man. He is in the same setting, with the same rug, where whites are often photographed. This happened in a separate-but-unequal town where blacks were restricted in where and how they could eat, walk, drink from a water fountain, shop, see movies, or go to the bathroom in public places. Even if West were considered "a worthy negro" or "a house nigger," this picture would seem to represent a liberal viewpoint.

The circumstances of the West picture are not clear. Nor is it clear if West or someone else paid to have it made. Hallie Brown, whose late husband owned the car company where West worked and who also was West's employer when he worked at her home caring for her children, is now over ninety years old. She has a clear memory, yet says she had never before seen the photograph of West until May 2000 when I visited her and showed it to her. A tiny woman with sharp-boned face and immaculately groomed white hair she lit up when saw the picture of the man she called *Humpy*, so named because of a upper back problem he had his entire life.

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[37] hooks, 50.

She spun out the complicated story of West and his family, his several wives and girlfriends. West has several children still living in Columbus; Brown talks with them regularly, she said. After my visit, she telephoned several of them for me and asked them to contact me. Eventually, last summer, I met with one of West's nine children, Oscar Lang. He is an energetic electrician who loves used Volvos and loves telling stories. He had never seen this picture of his father. I gave him a copy. His dad was born in 1911 in nearby Ethelsville, Alabama, and died in 1964.

Lang told many stories about his father. One of his favorites is how his father inspired one of the Brown children, Floyd Brown Jr., to become an Air Force pilot. Brown also became one of the top-ranking officials at the Citadel Military Academy in South Carolina and attributed his military success and love of flying, in part, to Oscar West.

Once, a few years ago after he had left the Citadel, Brown told Lang: "The reason I'm sitting here now as a retired military colonel, as a flier, is your daddy (Oscar West)" took two old wooden milk crates and fashioned an airplane from them when Brown was five years old. “He put on a propeller and spun it and said: ‘All right, now, you’re flying. ’” From that day on Brown told Lang, his goal was to fly, thanks to Oscar West.[38]

Conclusion: Equal Before the Lens

Some Pruitt photographs clearly exhibit one of the Southern mentalities; others have elements that range among the mentalities. Regardless which mentality is reflected, it is clear that as a white man, Pruitt moved freely and authoritatively in both the worlds of black and white; rich and poor, and conservative, radical and liberal. He documented a complexity that was at once brutal and genteel, archaic and modern. In doing so, he supplied some vital images for the black community’s use and the white’s as well: pictures he took and pictures they took, which he developed and printed. He was the town’s single photographer—black or white—for much of the two decades of the 1920s and 1930s. Even after other white photographers came to town around shortly before the start of World War Two, Pruitt until his retirement at age 70 continued to take photographs with an approach that said, in a sense, all were equal before his lens. Regardless of what Pruitt’s racial views might have been, black and white alike interviewed for this project said they considered him overtly fair in his racial dealings.

In the sense of a Walker Evans, Eugène Aget, August Sander or Dorthea Lange, Pruitt was not a great photographer; it would be too much to suggest he was an artist, and doubtless he did not consider himself one. Pruitt was like many that took up photography in the late nineteenth and early twentieth century, and even today: He was a photographer in the *business* of photography. Clearly, however, he loved taking pictures, was obsessed with the practice and was very good at it.

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[38] Oscar Lang, interview with the author at Lang’s house in Columbus, Mississippi, 7 July 2000.

Nonetheless, it can be argued that a number of Pruitt images do evoke Evans or Aget, Sander, Lange or even the iconoclastic Arthur Fellig—known as Weegee. This is the case not only because of Pruitt's use of large format view cameras, his often elegant composition with a true sense of the edges of an image, and his subject matter, which often resembles these celebrated photographers. This is true because Pruitt's pictures sometimes are sublime or simply compelling, shocking or delightfully surprising. And although he made his living as a studio and commercial photographer, he served a broader role: He functioned as a de facto notary public. By photographing the public life, familial and communal life, the sacred and the profane, he authenticated it for everyone, including himself, a white man in a place where race—and the three Southern white mentalities—mattered greatly.[39]

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[39] Evans worked as a federal Farm Security Administration photographer throughout the country, including in Mississippi. A review of the images Evans took indicates that he photographed as close as 60 to 100 miles to Columbus, including in Tupelo and Oxford, but apparently not in Lowndes County.

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Figure 1

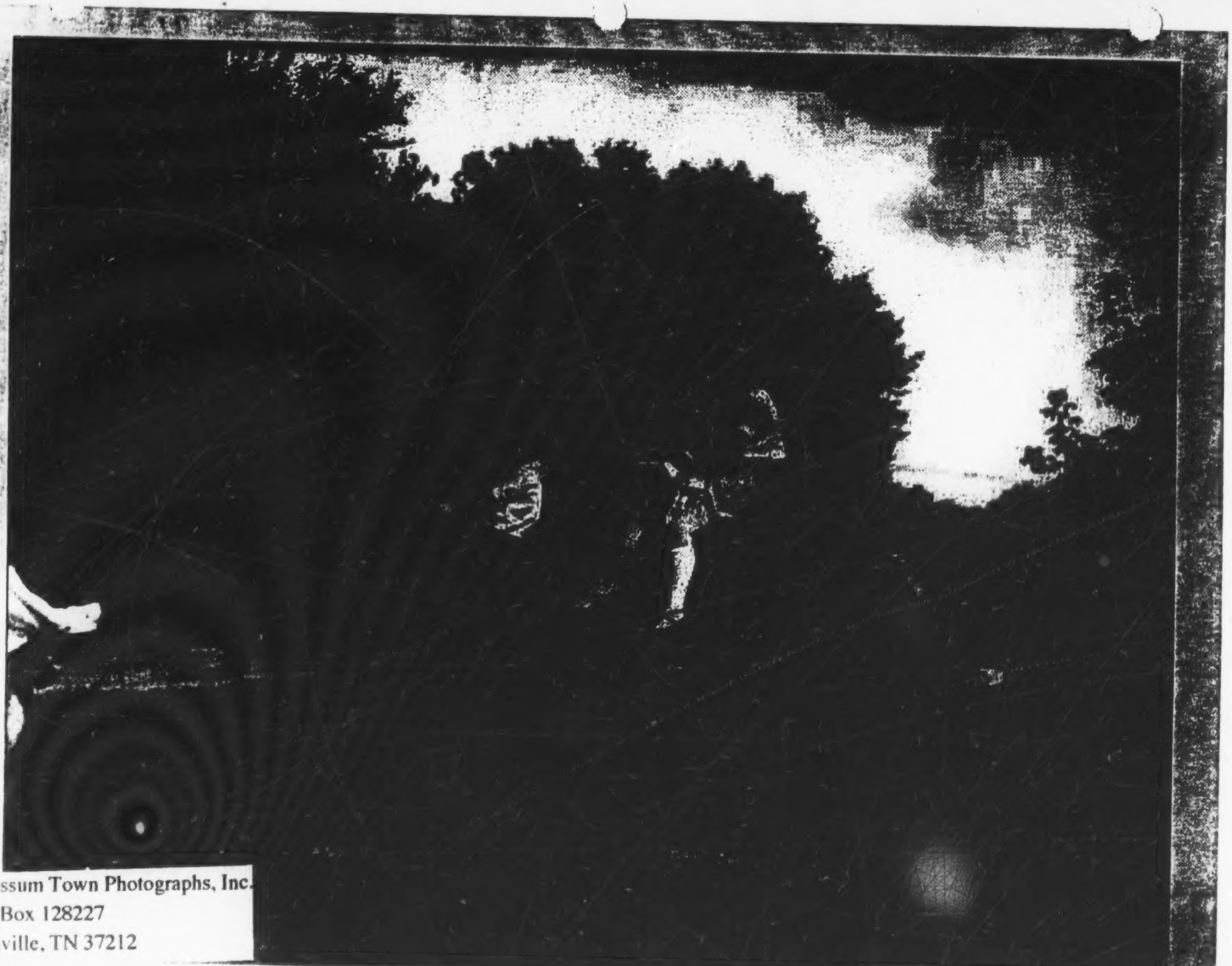

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Figure 2

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Figure 3

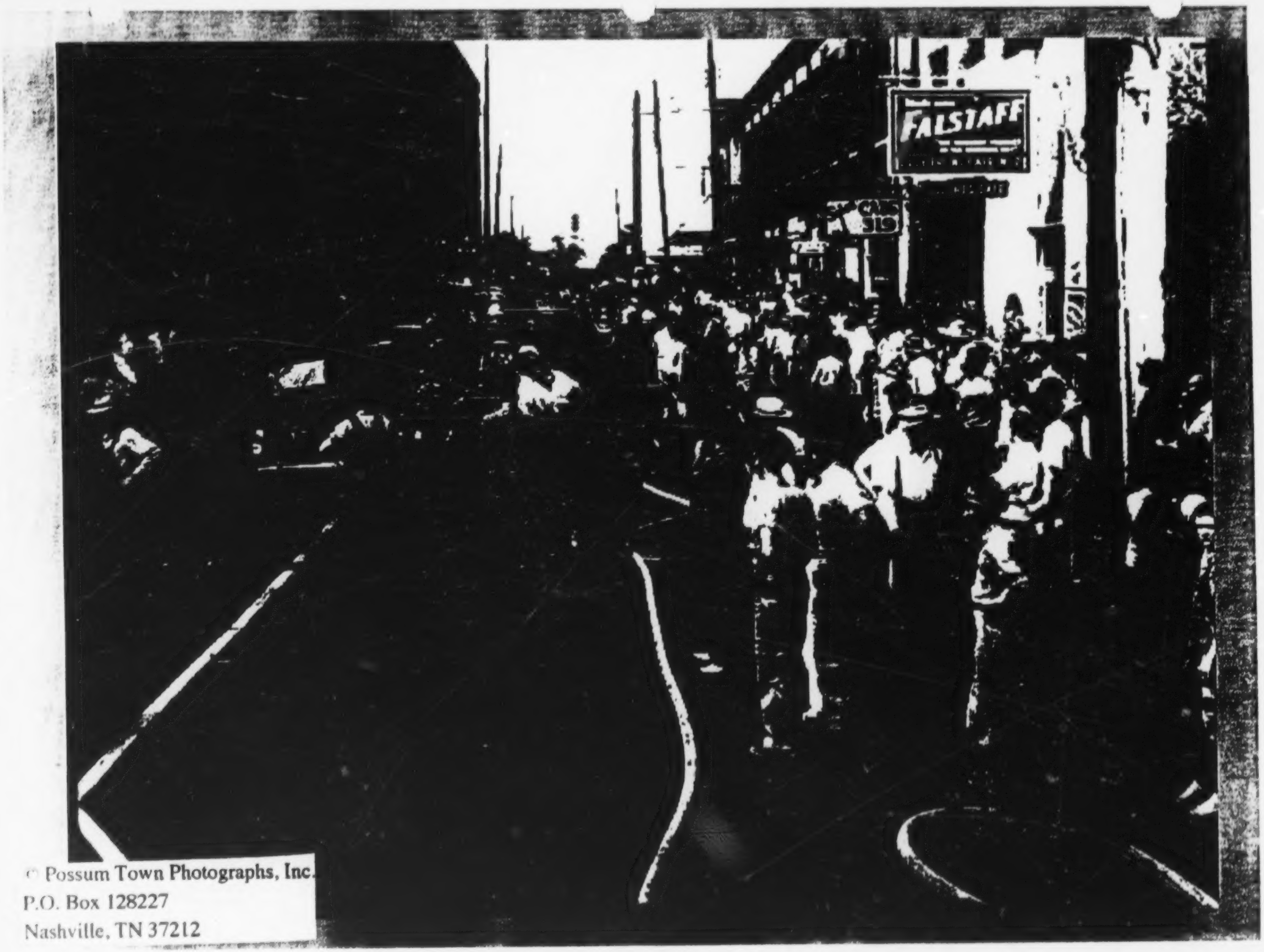
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Figure 4

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Figure 5

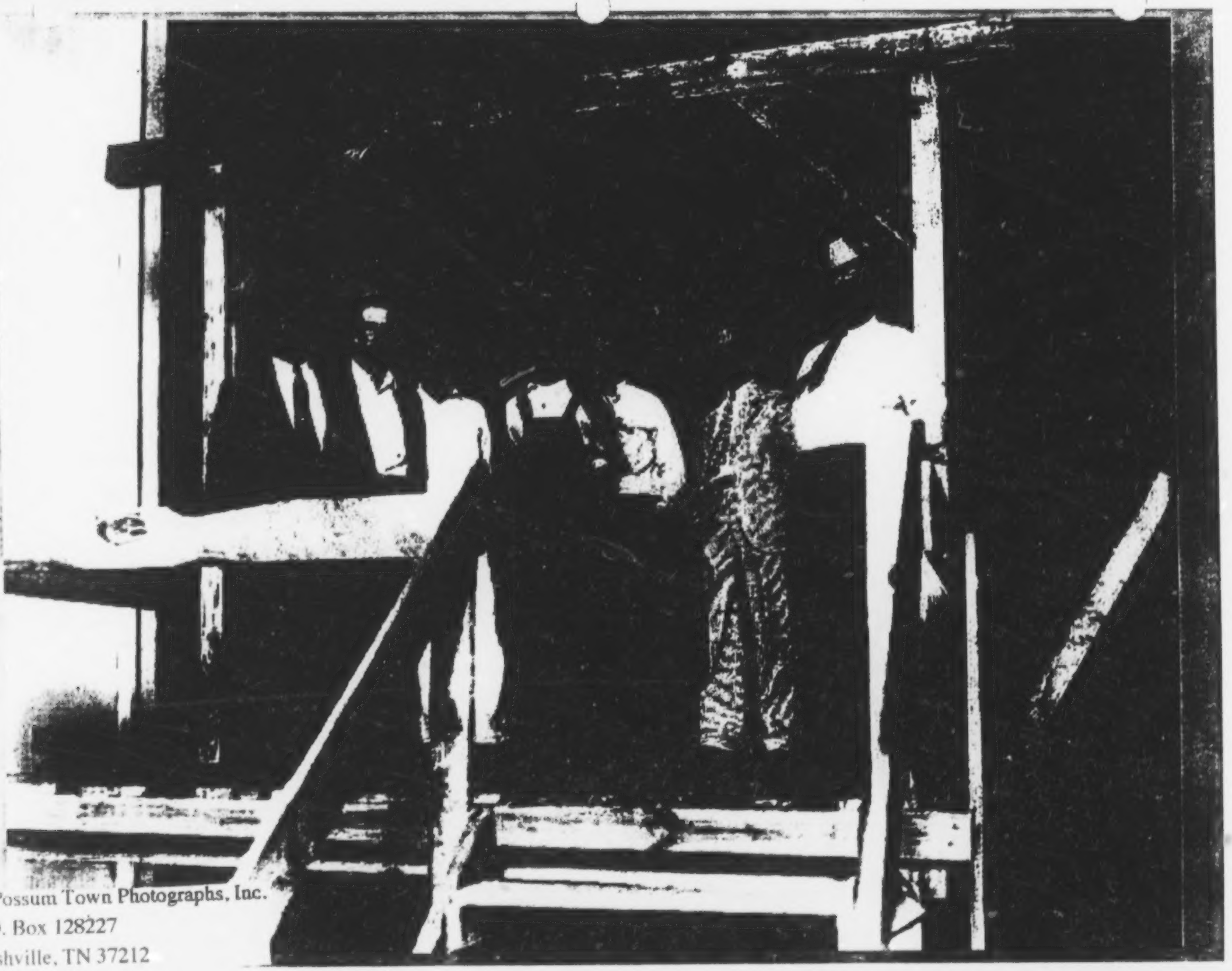

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Figure 6

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Figure 7

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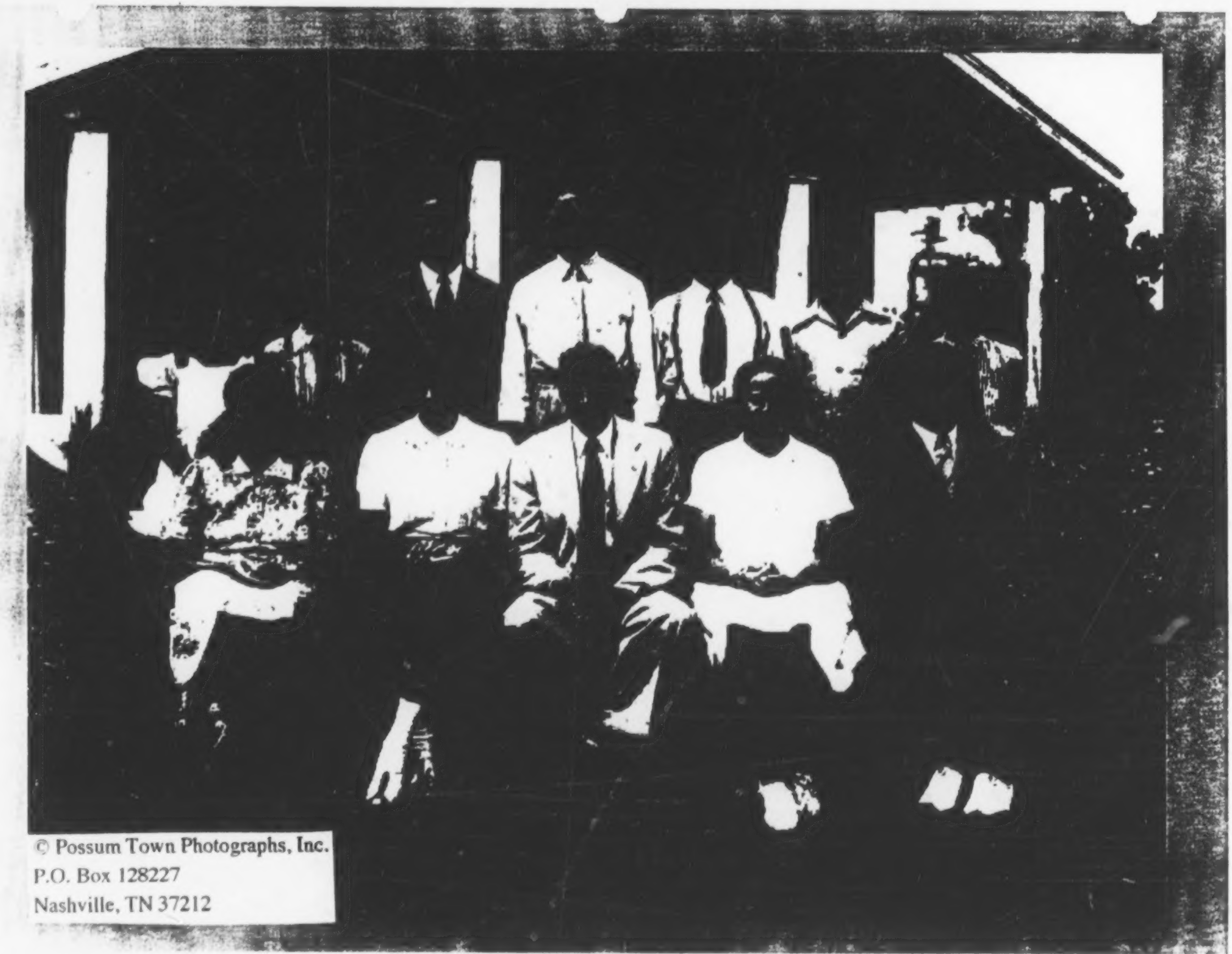

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Figure 8

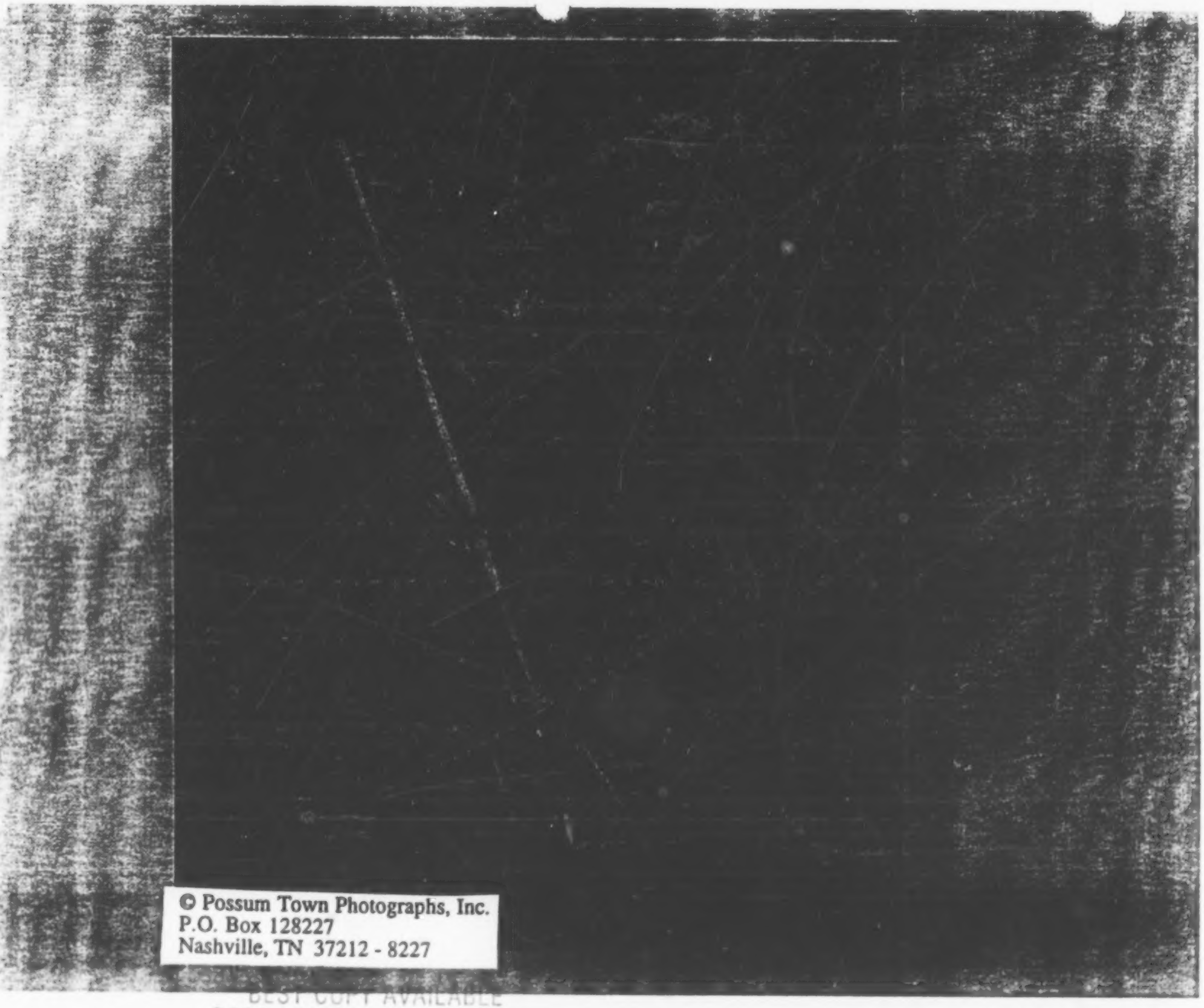

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Figure 9

If Looks Could Kill:
The Ethics of Digital Manipulation of Fashion Models and Attitudes of Readers

by
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ABSTRACT

If Looks Could Kill: The Ethics of Digital Manipulation of Fashion Models and Attitudes of Readers

Magazine editors and visual educators need to explore the ethical connections between digital manipulation of fashion models and the increased health crisis of eating disorders. This study examines reader response to the digital manipulation of fashion models and explores readers' attitudes toward this use of new technology. It challenges the implicit assumption of magazine editors and advertisers who defend digitally altered fashion photos by saying "our readers understand."

This study identified magazine images that promoted "the thin ideal" and then recovered the body image in a second photo that was digitally altered and restored to a healthy slimness. In an experiment 104 subjects viewed a total of six photographs, three "thin ideal" originals and three restored versions that transformed the models to slender as opposed to extremely thin.

Findings indicated that prior exposure to very thin models, as opposed to versions restored to slenderness, reduced subjects sensitivity to the difference between extremely thin and slender versions, increased their self consciousness, and eroded their healthy eating attitudes. Furthermore, prior exposure to the thin ideal disempowered the subjects even after viewing both versions of each photograph: they were less likely to take action protesting the manipulation to editors and advertisers.

If Looks Could Kill:

The Ethics of Digital Manipulation of Fashion Models and Attitudes of Readers

Introduction

For the past 15 years, the ethical discussions of digital manipulation have largely ignored readers and instead focused on the credibility of news photography (Alabiso, 1990; Reaves, 1993; Wheeler & Gleason, 1995; Reaves, 1995). Editors, media watchdogs and educators have been engaged in a dialogue that articulated what Elliott and Lester call "the slippery slope of digital manipulation" (Elliott & Lester, 2000). However, research is still embryonic in extending the ethical discussion to readers. For example, it was a reader, a student at the University of Wisconsin–Madison, who first objected to the face of an African-American oddly pasted into a brochure cover touting racial diversity (News Photographer, 2000). Only a few studies (Kelly & Nace, 1994; Huang, 2000) have probed reader attitudes on the believability of photographs in the digital age. And in the glamorous world of fashion magazines, there is virtually no discussion of digital ethics that incorporates reader response regarding extravagant images of thin models with impossibly long legs and slender waists.

Observers have long noted that magazine photos are vulnerable to a "digital epidemic" of cosmetic tinkering of pixels on the computer screen (Blonsky, 1991) In part, digital cosmetics reflect the media's infatuation with the "cult of celebrity" as news blurs into entertainment (Reaves, 1995b). Some researchers argue that digital manipulation used as entertainment in women's magazines can distort women's perceptions of themselves (Consalvo, 1997; Hitchon & Reaves, 1999). Visual educators need to consider this new ethical arena of digital manipulation: in fashion magazines digital fakery can harm women who are more vulnerable to eating disorders, and for some, digital looks can kill. Magazine editors and visual educators thus need to expand the ethical connections between digital manipulation of fashion models and the increased health crisis of eating disorders.

This study examines reader response to the digital manipulation of fashion models and explores readers' attitudes toward this use of new technology. This study challenges the implicit assumption of magazine editors and advertisers who defend digitally altered fashion photos by saying "our readers understand." The question remains: Can a population exposed to manipulated images truly understand that what they see is not real? Can they be educated to resist the persuasive character of these visual mirages? The alternative to effective education is regulation, either voluntary or imposed, of an industry sensitive to the rights of artistic freedom in creating a tantalizing image.

Literature Review

Ethical Considerations

Airbrushing of fashion models and celebrities is not new. However, digital airbrushing comes with a new battery of simple cloning tools that are easy for editors and transparent to readers. Thomas Cooper has formulated forty new ethical issues that have resulted from new technology. Cooper ranks digital manipulation sixteenth and he also included it as part of the eleventh-ranked issue of deception. Cooper suggests that for researchers, new technologies amplify, obsolesce, create, perpetuate or retrieve existing effects and ethical issues (Cooper, 1998). Cosmetic digital manipulation amplifies and perpetuates fashion's acceptance of digitally altered images while it creates faster and more efficient ways to further alter waif-like models. Cooper invited researchers to add to this list of ethical issues, and we suggest that there is an emerging connection between media technology and psychological responses in health.

In ethical dilemmas, ethicists urge media practitioners to justify their decision-making by moral reasoning. An action can be justified by an array of moral philosophies, from utilitarianism to virtue theory. However, Elliott (1996) argues that despite economics, aesthetics or the First Amendment, "it is wrong in a prima facie sense to do things that cause harm to other beings. This tenet fits with 2,000 years of moral philosophy." Aesthetics, says Elliott, are often at the core in the argument to publish a troublesome news picture. In the arena of fashion photography, artistic freedom is part of the aesthetics. Thus, the moral imperative of Art competes with the ethics of healthy living.

The mass media are pluralistic in their aesthetic, news and entertainment values but all have easy access to digital technology. Elliott (1986) says that the mass media, which include magazines and advertising, have a responsibility to society "no matter what society they may be operating in." Elliott reminds us that philosophers since Plato have argued that with power comes an obligation to act "in a way that is in an interest to the people whom they affect." Barney (1986) argues that the pluralistic mass media are key players in a participatory society that relies on information. The pluralistic media, offering images and information every day, help determine the overall social health of a nation that relies on these messages.

Magazines and advertising then are ethically obligated to question their use of new technology if they are presenting messages that have an adverse psychological effect on their readers. This paper argues that digital manipulation of fashion models involves not an isolated mishap here and there, but an ongoing practice that reflects society's current notion of the desirable body shape. While an extremely thin female form is considered the ultimate in desirability, it is an unrealistic ideal in the land of plenty. Aristippus' philosophy of hedonism, the pursuit of intellectual pleasures, has been transformed to the modern equivalent of "eat, drink and be merry" and includes, according to Lester (1996), the cult of celebrity, wealth and lavish living – prime editorial arenas for magazines. Yet the women who decorate such scenes can never feast lavishly and retain their most valued attribute, their emaciated outline. That essential contradiction is amplified when digital technology transforms the already thin model into an even thinner fictional form, a mirage (Hitchon& Reaves, 1999.)

Visual Truth and New Technology

Although we might suspect the extent of digital manipulation on models, the truth is we accept them unconsciously as "natural" or else the result of family genes, diet and exercise. Newton (2001) points out that our notions of visual truth are complicated by the fact that "even when we know cognitively that something we see cannot be true, or have been told that it is not true, we still tend to believe what we see." Kelly and Nace (1994) found that readers rated the photographs in the *National Enquirer* as more believable than the tabloid in general. This begs the question whether educating the public to understand that magazine images are routinely altered will enable readers to discount them, and combat the deleterious effects of a thin ideal they cannot achieve.

For, if we cannot educate readers to withstand the effects of exposure to the thin ideal, we will be forced to grapple with the dilemmas involved in trying to regulate industry's expression of artistic freedom on the grounds of protecting women's psychological and physical health. Indeed, Huang's (2000) recent study of reader attitudes concluded that readers do not want documentary images or images of human beings altered. Huang advised the media to "raise the standard to an ethical level rather than merely a legal level."

The Thin Ideal

Media stereotyping of women and their bodies is well-documented (Coulter, 1996; Myers & Biocca, 1992). However, the discussion of visual stereotypes of women as either domestic madonnas or sex objects is broadening. For example, Baldwin (1999) argues that some young women who look at highly sexualized images of women perceive the models as "more powerful." Body image has a profound impact on formation of identity as well as the stereotype that "beauty equals goodness." Coulter (1996) points out that obesity is considered so deviant among women that weight gain has been considered a sign that a woman has lost ambition to climb the corporate ladder in management.

Appearance has always been more salient for women in developing a positive self-esteem (Mazur, 1986) and also for women's success in public office (Hitchon & Chang, 1995). Indeed, success and happiness are most often associated with people, especially women, who are thin (Stice & Shaw, 1994; Fisher, 1996). Media messages reflect this gender difference by focusing on women's weight and diet foods, as reflected in the preponderance of diet ads in women's magazines (Silverstein, Perdue, Peterson & Kelly, 1986).

Researchers have recently established a link between media consumption and eating disorders. Levitt (1997) found that 14 percent of women who had an eating disorder rated the media as "extremely encouraging" in promoting this behavior and with the media's over-emphasis of svelte celebrities. This "thin ideal" is seen as a norm in women's magazines (Wolszon, 1998). Moreover, women who are heavy magazine users are more at risk at developing increased symptomology of eating disorders such as anorexia and bulimia (Harrison & Cantor, 1997; Anderson & DiDominca, 1990; Thompson & Heinberg, 1999;). Recent research has shown that increased exposure to magazines fuels the "drive for thinness" that can lead to dysfunctional eating behaviors. (Harrison & Cantor, 1997; Thompson & Heinberg, 1999).

In fact, beauty and fashion magazines are used specifically by anorexics to gratify their needs and distorted cognitions such as a competitive comparison to other thin women and motivation for greater food restriction (Thomsen, McCoy, Williams, 2001). As Thomsen, McCoy and Williams observe, "the magazine provide support, role models and, in a rather convoluted sense, reassurance in the patients' minds that their ultra-thin ideal or fantasy may be attainable." Eating disorders occur as a result of the nexus of personality, familial and emotional factors, however Thomsen, McCoy and Williams found that anorexic felt their magazine consumption was itself "addictive."

Women's bodies are now compared to a cultural ideal that represents only the thinnest five percent of women, and even that ideal is further thinned by computer. Beautiful models are often promoted as "natural," but Consalvo (1997) observes, "the natural look promoted is itself a fake, the result of air-brushing and digital enhancements." Lavish illustrations combine with digital technology to create pixelized versions of digital liposuction, cloned muscles and digital body lengthening (Hitchon & Reaves, 1999). While an older generation might dismiss fashion models and glamourous ads as "illusions" or "wishful thinking" these same illustrations might be perceived by young readers as a reality that they seek to emulate. Magazine publishers report that adults aged 18 to 24 years are the heaviest readers of magazines (MPA, www.magazine.org).

Magazines and Digital Manipulation

Magazine editors are more tolerant of digital manipulation than newspaper editors. Cosmetic changes in photos are more common because magazines have longer deadlines and cover photographs are crucial to newsstand sales (Reaves 1991; 1995). In fact, magazine editors tend to be the least responsive to discussions of journalistic ethics and researchers note there is a "big silence out there." (Hesterman, 1987; Silber, 1994).

Despite the silence, there is evidence of a new cosmetic aesthetic that is created by digital doctoring. In 1998 the mother of the Iowa septuplets found her teeth straightened by *Newsweek* while earlier *Glamour* digitally fixed Madonna's smile and *Vogue* rearranged Madonna's hair and cleavage. *Glamour* took a cover photo of Madonna in December 1990 and bleached her teeth digitally then removed the gap between her teeth by digitally fusing them together. "It looks like they glued them together, up and down and across," Madonna reportedly commented. One *Vogue* cover in 1985 featured the actress Isabella Rosselini with eyes that were so digitally altered, "Isabella's eyes look like a hard-boiled egg." (Blonsky, 1991) Each isolated instance can be dismissed as a digital mishap that has little connection to broader ethical issues, yet viewed as an accumulative sequence of events these mishaps do raise moral questions that are not trivial. Fashion magazines have suffered from a "retouching epidemic." (Blonsky, 1991).

Most news editors and ethicists caution the use of digital alterations in editorial illustrations that mimic reality (Wheeler & Gleason, 1995; Brower, 1998). However, even magazines that report news fall into the pressures of creating enticing magazine covers, such as *Time* magazine's desire to create a dramatic cover photo of O.J. Simpson. *Time* editors created drama, but not the kind they wanted and weeks later they were still answering charges of racism to Simpson's darkened face and melodramatic spotlighting. (Reaves, 1995b)

If the fashion world is always looking for a fresh face, digital manipulation has offered morphed faces. In 1993, *Time* magazine created a digital melting pot of it own and morphed together a woman of color to illustrate their special issue of changing demographics of America. In 1994 *Mirabella* hired art photographer Hiro to create a face from five different models. Hiro described his cover photo as "intellectually challenging because he had to grapple with mixing racial features, such as "East Indian eyes with lighter skin. . .it looked weird, not beautiful" (Wilson, 1994).

Digital Mirage

Perhaps cosmetic digital manipulation is an extension of society's tolerance for the digital softening of wrinkles and blemishes in portraits. Indeed, digital cosmetics can be seen as part of a continuum that begins with wrinkles and ends with morphed faces that are not based on a real human. In between this digital cosmetic continuum are the digital alterations that make thin models even thinner, longer and more unreal. The repetition of small digital changes create an aesthetic sensibility not based on a living woman's body– it is digital fakery at its most subtle and seemingly harmless. Cosmetic digital airbrushing are dismissed as vanity and therefore not worthy of ethical consideration. However readers who are vulnerable to eating disorders are internalizing distorted photographs that are not real. These readers are trying to achieve the body that has been called a "digital mirage" (Hitchon & Reaves, 1999).

Adolescent Development and Media Literacy

Brown and Cantor (2000) warn that the media are a "dominant and influential activity of childhood and adolescence," and a force in cognitive development of youth. Walsh (2000) agrees that the power of the media to shape children's thoughts, feelings, attitudes and behaviors is well-documented, and he urges that research into the effects of the media on children involve, in part, the physiologic effects of the media and the effectiveness of media education.

Early research in media literacy of digital manipulation suggests that although readers may prefer thin, long-legged models in advertisements, they also want images of models to be authentic and unaltered. A pilot study indicated that readers' sense of body dissatisfaction was improved when they understood the effects of digital manipulation (Hitchon & Reaves, in press). As educators, the crucial question regarding whether our young can be educated to withstand the effects of exposure to altered models must be addressed. Based on this reasoning, this study was designed to explore whether education regarding the digital manipulation of photographs has an impact on readers' responses to images.

Support for the idea that youth can be educated to understand the prevalence of digital manipulation comes from the access to the technology as toys and games. A popular website features the digital morphing of celebrity singer Britney Spears into a plumper, digitally constructed 50-year-old (www.warnerbros.com). Digital cameras are big business to both consumers and the media that does not want to rely on professional photographers "Anyone can take the photo and we can improve it in

Photoshop," says one observer of digital technology (Toner, 1997). Indeed, new digital technology is a tool that artists now use to create color photographs with a hyper-clarity not available with traditional cameras or darkrooms (Goldberg, 2001). From art to news to entertainment, digital technology has become child's play. The popular children's toy, Game Boy, has added a camera for simple snapshots and encourages the users to add digital drawings to the snapshots such as the traditional child's doodling of mustaches, smiley faces or devil's horn. Game Boy even has a printer for the final digitally manipulated snapshot (Herz, 1998). Although seemingly harmless, digital toys and trickery can be used against the young who are forming their identity.

Research Method

Cooper (1998) elucidates why researching the ethics of new technology presents its own unique problems. He points to factors such as: *invisibility,* where ethical issues go undetected and unreported; *acceleration,* where the use of new technology increases at a profound rate each year; *personal domain,* where abuse is covert or personal and therefore not available to researchers. Researching the digital manipulation of fashion models and cover portraits reflects many of Cooper's observations: most go undetected unless there is an eyewitness who disagrees with the digital manipulations. A challenge to researchers is that they are unlikely to original fashion images before they were altered.

In developing stimuli, we identified magazine images that promoted "the thin ideal" and then recovered the body image in a second photo that was digitally altered and restored to a healthy slimness. We refer to the two images as "thin ideal" and "restored." The images were culled from *Vogue* issues published 1998, and were selected to feature full page depictions of single female models. A total of six photographs was included, three thin originals and three restored versions that transformed the models to slender as opposed to extremely thin.

This paper presents preliminary findings from 104 subjects who were exposed to either the "thin ideal" first or the "restored" image first. In either case, our subjects were subsequently confronted with both versions, thereby providing a comparison that made concrete the routine use of new technology to change the appearance of models. In our design, exposure to the thin ideal before the revealing comparison mimics the situation of our society's population, who has been exposed to thin images as a norm. By contrast, initial exposure to a slender but not emaciated photograph suggests a scenario that is healthier than our normal media environment. Comparing responses from readers in each situation promises to reveal any differences in empowerment due to prior exposure to thin as opposed to healthy. Subjects were freshman and sophomores at a large mid-western university, thus belonging to the population of young people removed from parental oversight of food consumption and vulnerable to a range of eating disordered behaviors.

Preliminary findings

Manipulation check

Subjects were asked whether they noticed that the models were digitally altered and their responses were recorded in a 7-point scale. Thin photographs were consistently perceived by subjects as significantly thinner than restored photographs (p<.001), indicating that the manipulation was successful.

Subjects were initially asked their levels of self-consciousness and attitudes toward eating (EAT) on standard scales used in research into eating disorders.[2] Dependent variables were a self-consciousness scale developed by Burnkrant & Page (1984) There was a general linear tendency for self-consciousness to increase across our subject population when confronted with the series of images (pretest mean = 5.23; mean after comparison pictures = 5.40, F=3.959, p=.049).

Most important, there was an effect of order of photographs. While subjects who saw the restored photographs first did not become more self-conscious across exposures, people who were exposed to the "thin ideal" first showed a significant increase in self-consciousness (F= 4.102, p=.046). Further, subjects exposed to the restored photos first were more robust to later exposure to the thin ideal and showed no change with regard to their eating attitudes test. In contrast, subjects exposed to the thin ideal first, and then exposed to the restored version, showed a significant increase in healthy eating attitudes upon exposure to the restored image (F=3.853, p<.052).

See Figure One.

Questions followed regarding the impact of seeing both versions of the photos, and regarding reader perceptions of the ethics of digital editing. Subjects exposed to the restored photos first, as opposed to the thin ideal first, perceived a greater difference between restored and thin versions (F=6.726, p<.011). Asked about actions they might take in order to protest the digital editing of magazine photographs, people exposed to the restored versions first, as opposed to thin ideal first, were significantly more active in their combined responses toward editors (F=4.171, p<.044). People who saw the restored photos first were more likely to ask editors to post warnings (F=13.039, p<.000) as well as asking advertisers to post warnings (F=7.763, p=.006) They were significantly less likely to buy advertisers' brands when the featured models were manipulated to be thinner (p<.019).

Discussion

Findings indicated that prior exposure to the "thin ideal" *Vogue* models, as opposed to versions restored to healthier slenderness, reduced subjects sensitivity to the difference between extremely thin and slender versions, increased their self consciousness, and eroded their healthy eating attitudes. This suggests that the "thin ideal" has an unhealthy impact on readers. One respondent wrote shared her opinion of digital manipulation: "I think it's disgusting. It makes me sick. It really hurts women more than people think." Furthermore, prior exposure to the thin ideal disempowered our subjects even after viewing both versions of each photograph: they were less likely to take action protesting the manipulation to editors and advertisers. One respondent wrote, "It's sad, but it's a fact of life. Our culture demands thinness."

While our findings are not intended in any way to suggest that education of readers accustomed to the thin ideal may be too difficult a prospect to embrace, they nevertheless suggest that we have no time to waste. Every exposure to emaciated forms acts as "priming" of a thin ideal dangerous to psychological and physical health. One respondent wrote:

> "I think its promoting a very unrealistic image of what is beautiful, and makes women strive for something unattainable. As a resident advisor I deal with girls who are literally killing themselves to be thinner, and ads like these are part of the reason I feel very betrayed and I think it's awful."

By contrast, presentation of a healthy slenderness followed by evidence of the use of digital manipulation produced more critical perception of alteration and greater behavioral intention to change the industry. One respondent wrote:

> "I think its conniving. We've grown up thinking that models

> are perfect – that there is a prayer of being that thin, and most of us will strive our whole life to get there. Now we find out that's impossible – it's all an illusion. I don't know whether to feel relieved or upset!"

A healthy slender image maintained levels of empowerment for readers. One male subject wrote, "It was kind of a relief knowing that even supermodels have to be digitally altered to be as beautiful as they are. This means they are closer to normal. If I were a woman, knowing that would make me feel better about my body."

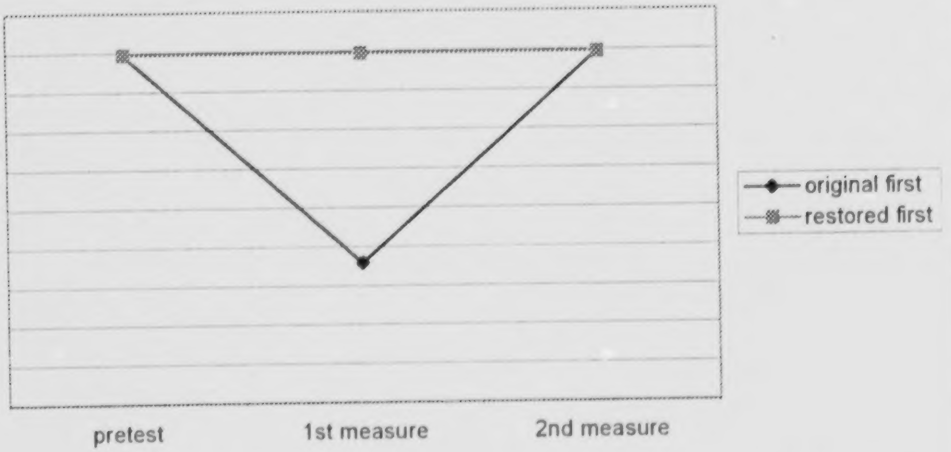
In sum then, this study suggests that readers do recognize, and care, about the impact of digitally manipulated fashion photographs. Moreover, the "thin ideal" is powerful enough to create a narcotizing effect to readers who are surrounded only by the "thin ideal." However, this is not society's, or educators', only option. Images of healthy slenderness, the restored versions in this study, have the effect of maintaining reader's interest in the message as well as maintain an ability to respond in pro-active ways to the use of digital technology that they do not agree with, such as writing letters and demanding warnings. They remain citizens in a participatory society. To the extent that we can educate readers to dialog with editors and advertisers about their use of digital alteration, we facilitate coordination and conflict resolution without resorting to regulation.

Future research should examine forms of education other than the direct presentation of two versions of the same photograph. After all, models are likely to resist being "unveiled" in glamorized and nonglamorized shots; and photographers will probably see such comparisons as intrusions on their art. A salient form of education is the use of public service campaigns, and it would be an obvious next step to investigate the effects of exposure to PSAs regarding the use of digital manipulation.

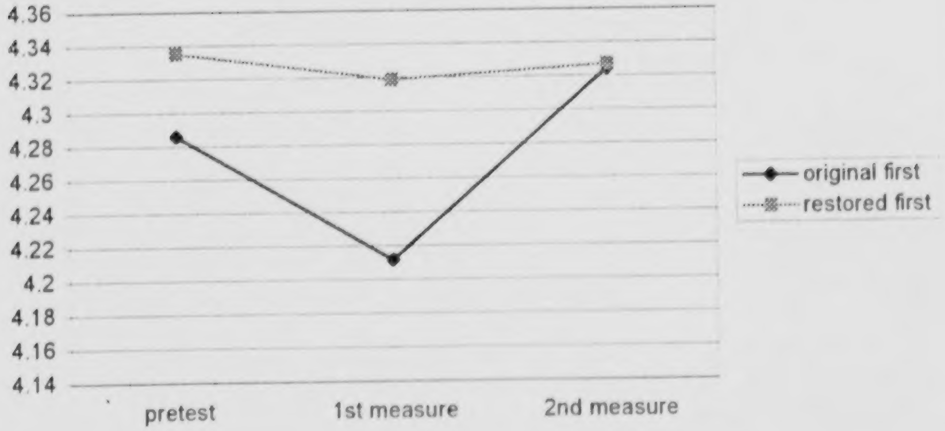
# # # #

Figure 1

	pretest	1st measur	2nd measure
original first	4.3187	4.2115	4.3187
restored fir	4.3187	4.3187	4.3187



	pretest	1st measur	2nd measure
original first	4.2857	4.2115	4.3242
restored fir	4.3352	4.3187	4.3269



Footnotes

1. Despite a recent increase in the incidence of eating disorders among males, they remain primarily a concern among young women and so we discuss the problem in the context of women's health.

2. EAT, Eating Attitudes Test, is the standardized measurement that researchers use to assess eating behaviors and attitudes for subjects. See for example, Burnkrant & Page, 1984; Harrison & Cantor, 1997).

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Establishing a Photojournalism Historiography:
An Historiographical Analysis of the Developmental Approach

by

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Establishing a Photojournalism Historiography:
An Historiographical Analysis of the Developmental Approach

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ABSTRACT

This paper examines the nature and application of the Developmental historical approach for photojournalism. It examines the approach by describing it, identifying assumptions held by Developmental historians, and lists questions these historians might ask. Then, it uses a communication history model to reveal how this approach can address particular aspects of the model. This is followed by a discussion of the approach's strengths and weaknesses. Lastly, a conclusion offers some final comments.

Establishing a Photojournalism Historiography:

An Historiographical Analysis of the Developmental Approach

The history of photojournalism cannot be completely separated from the histories of journalism and photography. Photojournalism is usually seen as a subfield of these disciplines and researchers tend to view it from the same perspectives they use to view journalism and photography.[1] The foundation of photojournalism's history is the interpretive approach known as Developmental. This approach is the oldest form still commonly used by journalism historians. Because of its own extensive history, dating back to late 1800s, it has provided much of the material which constitutes the history of journalism. It has been able to survive because Developmental historians have adjusted to their social conditions and they have tinkered with this approach to reflect changes in society. This paper examines the Developmental approach and offers suggestions to photojournalism historians in using it to study their field.

It should come as no surprise that journalism historians have used an array of interpretive perspectives for their research, which has left some historians to question the value of the Developmental perspective. The lifeblood of historical research is the historian's desire to find new insights or evidence. So, differing interpretations may be produced by a new generation of historians wanting to re-examine history, new evidence which is presented, and the development of new research tools, such as quantitative methods.[2] This desire drives the evolution of historiography, which can be seen not only as a body of thought, but as the history of historical research. It reveals how research is affected by previous research and changing social conditions. The depth of journalism's historiography is evident in James D. Startt and Wm. David Sloan's identification of six "schools" of "interpretation" in mass communication historiography:

Nationalist, Romantic, Developmental, Progressive, Consensus, and Cultural.[3] These schools mirror movements found in the broader arena of American historiography.

The Developmental School gained popularity in the late nineteenth century when journalism was becoming professionalized. "It is based on the concept of the professional development of the press, viewing the history of journalism as the continuing evolution of journalistic practices and standards."[4] Developmental historians searched for the origins of various professional practices and those individuals who had the most impact on newspaper journalism. They portrayed journalism as a growing, respectable profession that was changing for the betterment of society. The school's most well-known practitioners and their major works were Frederic Hudson's Journalism in the United States, from 1690 to 1872; James Melvin Lee's History of American Journalism; Willard G. Bleyer's Main Currents in the History of American Journalism; and Frank Luther Mott's American Journalism: A History of Newspapers in the United States Through 150 Years: 1690 to 1940.[5] Developmental historians influenced journalism textbook writers in the early twentieth century who often borrowed this perspective to teach history.

Hudson's Journalism in the United States, from 1690 to 1872, published in 1873, provided the model for Developmental history.[6] Hudson, who was managing editor of The Herald in New York City, held a singular view of contemporary and past newspapers: they should offer news, not opinion. He held older newspapers to the same standards he applied to The Herald. Thus, his history of newspapers suffers from presentism--the reliance on contemporary conditions to view history. Hudson and other Developmental historians saw the past as leading up to the present in a determinative chain of events. They praised the newspapers they thought contributed to the contemporary conditions of the press and denounced whoever obstructed its development.[7] Later, some twentieth century historians would criticize their peers for a similar "whig" interpretation of historical "progress." In 1965, Herbert Butterfield called the whig approach "an obstruction to historical understanding because it has been taken to mean the study of the past with direct and perpetual reference to the present."[8] Some historians began to have a more critical view of the United States and the role of the press. During the 1950s and 1960s, Developmental historians began perceiving the United States government with disdain because of civil rights problems and the Vietnam War.[9]

The remainder of this paper examines the Developmental approach by first describing it, and then by identifying the assumptions held by many Developmental historians and looking at the questions they often ask. This is followed by by an investigation of the Developmental approach within the context of photojournalism history. Using terms borrowed from the communication history model conceived by John D. Stevens and Hazel Dicken Garcia,[10] this paper will demonstrate how Developmental historians can study the history of photojournalism. Then the strengths and weaknesses of this approach are identified, followed by the conclusion.

Examination of the Developmental Approach

This section looks at the Developmental approach to ascertain how this perspective is used by journalism historians. This approach is composed of historical works that utilize a similar perspective and/or literary construction. Authors are included because their works fall under this criteria rather than any declarations that they are Developmental historians. This section will first describing the approach, then identify the assumptions held by many Developmental historians, and look at the questions they often ask.

Description of the Developmental Approach

Startt and Sloan identify the Developmental School as the third school of interpretation to emerge in American mass communication historiography.[11] This school, preceded by the Nationalist and Romantic Schools, initiated a shift toward studying journalism as an evolving profession. Its continued use, as well as its influence on later journalism historians, led Startt and Sloan to refer to the Developmental School as the "predominant, most pervasive, and longest-lived approach to communication history."[12] The approach:

> has provided the underlying assumption of most histories of American mass media and continues today as the most commonly held perspective.
>
> It is based on the concept of the professional development of the press. Viewing the history of journalism as the continuing evolution of journalistic standards.[13]

By the time the Developmental School emerged, on the heels of the penny press and the Civil War, these historians were able to follow the great men of history tradition set by Nationalist and Romantic historians. Nationalists described men like John Peter Zenger as heroes because they pitted their presses against the tyranny of the crown. Because newspaper printers, editors, and journalists were a vital component to the country's growth, journalism historians were willing to accept these people as great men. The Developmental approach was noticeably different than its predecessors, but it could not completely break from tradition. After the Romanticists added great nineteenth century editors to the roll call, Developmental historians began telling the story of the penny press within a framework of occupational transformation.[14] Developmental historians were interested in broader subjects like the steam press and telegraph, as well as great men like Benjamin Day. Developmental historians retained the great men in their histories, but wove them into a narrative of professional evolution.

Developmental historians' emphasis on journalism as a profession contributed to the viewing of the press as an entity separate from political parties. They applauded the break newspapers made from political party support. This enabled the press to become economically independent, which was perceived as an important contribution to American journalism.[15] The press and its great men were becoming independent agents in American society and its history.

The Developmental fascination with the penny press resulted in a corresponding focus on papers located in the northeast, especially New York City. To many of these historians, the most readily visible links between the early and contemporary press were the region's large, innovative newspapers, which originated many of the trends adopted by papers in other regions. However, the influence of northeastern, urban papers on papers in other regions sometimes becomes difficult to ascertain. For example, nine of sixteen chapters in Willard Bleyer's text deal with specific newspapers. Of those, only two chapters were about newspapers outside of New York City. One chapter was about a paper in Massachusetts and the other was about a paper in Missouri.[16] Bleyer might have assumed that newspapers in other regions adopted technology and journalistic practices rather than simultaneously developing them.

As the Developmental School continued into the twentieth century older historians were replaced by new historians who expanded its scope outside of the northeast. In addition, its members could venture into the unchartered territories of new media varieties, such as film, radio, and television, or even photojournalism. A quick review of some Developmental histories of photojournalism helps to further define this approach, because a school's identity is inseparable from the histories emerging from it. The works which follow are examples of Developmental histories of photojournalism that serve to describe the Developmental approach.

The Developmental history of photojournalism was first written by journalism historians in the early twentieth century who were trying to gauge the occupation's importance without the benefit of much hindsight. Many of their comments represented extreme aspects of photojournalism because they were trying to report the range of the field within a small textual space. The photographic reportage of World War II led many people, both historians and practitioners, to reconsider news photography's worth to journalism. Mott, for example, revised American Journalism in 1950 so he could review press performance during the war. When writing earlier about news photography, Mott was concerned with technological developments and tabloid newspapers' composographs, fakeries, and scandalous subjects.[17] He spent little time with the evolution of picture magazines like Life, he did not acknowledge the photographic work of Jacob Riis, and he made no mention of Lewis Hine. The famous war photographer Jimmy Hare was given only two sentences. Mott's interest in news photography appeared to have grown after World War II. He reported the popularity of the Speed Graphic camera, the pooling system, the transmission of photographs, and the names of a few photographers. Despite the work of more notable photographers available for reference, Mott mentioned a reporter who carried a camera with him and a few historically obscure wire service photographers.[18] For inclusion in the revised edition, Mott chose to reproduce Joseph Rosenthal's well-known flag raising on Iwo Jima photograph.[19] By recognizing the importance of photojournalism in reporting World War II, Developmental historians like Mott demonstrated how the occupation was evolving and deserved greater attention.

Works by R. Smith Schuneman and Tim Gidal are early examples of Developmental history because they provide insight into photojournalism's growth. Relying largely on internal documents, Schuneman explains how newspaper artists and engravers in the late nineteenth century resisted photography's emerging presence in journalism.[20] He demonstrates through a Developmental approach how photojournalism began establishing itself as a routine operation for newspapers. Gidal tells the story of modern photojournalism's emergence in Germany, a story in which he was also an actor.[21] He is often cited because his book is an insider's story--a throwback, in part, to the work of Romantic historians.

C. Zoe Smith writes about one of Gidal's subjects, Kurt Korff, and his influence on Life in a Journalism Quarterly article.[22] Her premise is that Korff influenced the appearance of the final product by making recommendations of which photographers to hire and how to design pages. This article is Developmental history because it tries to show how journalism practice and the resulting product was being shaped by intentional actions. Had Life failed and never achieved popularity, this topic would probably have less importance to Developmental historians.

Biographies can contribute to a Developmental history of photojournalism because they alert readers to a photographer's contributions. Some of these biographies appear as journal articles that combine a subject's personal history with their photographic relevance. Robert S. Kahan and J.B. Colson's work on P.H. Emerson is one example.[23] Emerson is identified as a pioneer of photojournalism because he combined photographs and texts in a style similar to later newspaper photojournalism.

A similar Developmental biography is Claude Cookman's analysis of the photography and words of Henri Cartier-Bresson.[24] The article fits within the Developmental approach because it examines the evolution of Cartier-Bresson's photography and the role photojournalism had in his career. This work is advanced for Developmental history because it addresses the nature and purpose of Cartier-Bresson's social realism. Cookman demonstrates that history is not a simple task--it involves claiming a subject's identification and "significance."[25]

The Developmental approach has itself evolved in order to adapt to the changes in journalism and society. Its practitioners are now less reliant on pursuing a rigid historical continuity, and are willing to investigate people or trends which existed but did not become part of the popular narrative as recorded by historians. The most comprehensive example of recent Developmental scholarship is the work of Michael L. Carlebach.[26] By more thoroughly examining photojournalism's evolution his books help to fill in the many gaps which have appeared in American photojournalism history. He is the Frederic Hudson or Frank Luther Mott of his field. Prior to Carlebach's histories, most surveys of photojournalism were redundant. He goes broader and deeper than his predecessors, and effectively sets a new standard for photojournalism history by citing more original sources and reproducing images not seen for a long period of time.

Developmental historians of photojournalism tend to tell the origin of something, its importance or impact, and its evolution. The subjects they choose tend to be photojournalism in general, famous photojournalists, popular photographs, successful publications, and equipment or techniques. Developmental historians often rely on photographs, written texts, actors' personal recollections, internal documents, and sometimes their own recollections as source material.

Assumptions of Developmental Historians

Members of a school tend to share some similar assumptions. This is certainly true of the Developmental School, whose members have been accused of both relying too much on the present to understand the past and for being addicted to the historical narrative. This subsection examines these two major assumptions and provides examples of scholarship displaying these assumptions.

A mark of the Developmental approach is its tendency to view the past from a present position.[27] Herbert Butterfield has called this the "whig interpretation," and argued that it can lead to histories which emphasize what historians deem interesting and valuable in their own time; instead, historians should consider what was important during the actual historical moment.[28] The accused historians might disagree with this criticism on the grounds that all historical study is inherently contemporaneous to some degree. In other words, they perceive history as links in a chain with themselves impossibly removed from this passage. Obviously, it is easier to locate the visible links than invisible or undiscovered links. So, the chain is built from what is readily evident. An example can be found in the work of James Melvin Lee. "Some of the news items published as early as 1747 had a modern flavor. But for the color of the paper and the spelling of the words a second glance for the date-line is almost necessary."[29] Reliance on these links makes it difficult for readers of later eras to understand the material unless they are intimately familiar with journalism of Lee's own era.

Bleyer provides a hint of this whig style in a preface to his popular text, Main Currents in the History of American Journalism: "In order to understand the present-day American newspaper and its problems, it is necessary to know something of the influences that have shaped the course of the press since its inception."[30] Frank Luther Mott offers a similar perspective in his text, American Journalism: A History of Newspapers in the United States Through 260 Years: 1690 To 1950. He says some people look to the past to understand contemporary problems and "correlations of the past with the present . . . may be found implicit on nearly every page which follows."[31]

This assumption is evident in Kahan and Colson's article about P.H. Emerson, where the authors make a leap to connect the present to the past.[32] Emerson stands out to the authors because of his similarity to more contemporary photographers. While Emerson may have demonstrated some similarities, there is a lack of evidence that he actually influenced photojournalism's evolution.

This first assumption, a whig interpretation, is somewhat related to the second assumption, the utility of the narrative, for its representation. It could be said that for Developmental historians, continuity is the foundation of history and the narrative is the best form for articulating the evolution of journalistic practice.[33] If history is perceived as a chain, it contains significant links marking the appearance of new technologies or important individuals. As noted, many Developmental historians like Carlebach have altered their approach. However, most remain dependent on the narrative form and they assume that storytelling is an important function. The narrative is used to lay out a story from an outline of facts, so contestable issues tend to be resolved before the story is written. This method places importance on recognizable subjects, rather than social forces, as the impetus of history.[34] There are benefits to using the narrative--it helps to explain the linkages between technologies, such as the daguerreotype, the calotype, and the collodion process. According to Startt and Sloan, "Since it goes beyond simple narration and involves analysis, questioning, and generalization, it is, before all else, an interpretive narrative."[35]

Carlebach demonstrates that the narrative, when combined with other tools, can also be explanatory. His technique of telling history is known as "genetic explanation," that is, "explanation by pointing to the origin of a given phenomenon (genetic)."[36] This form of explanation also leads to the use of historical stages or eras to mark developments, or passages in time. Carlebach does this by devoting his book, Origins of American Photojournalism, to the pre-photojournalism era of the 1830s-1880s. His next book, American Photojournalism Comes of Age, starts with the 1880s and ends in the 1930s.

With the rise of postmodernism the narrative has undergone attack from a variety of directions.[37] Its longstanding use in history suggests that critics will have a difficult time in removing it from historiography. Its value depends on how it is used, whether it is implemented to tell a story after detailed research or if it is wrongly used in the place of research as a device to bend history to the writer's perspective.

These two assumptions, the whig interpretation and the utility of the narrative, are woven into a fabric which is patterned on the Developmental approach's main concern--the development of the journalism profession and its practice. This results in the privileging of subjects who contribute to the grand narrative, or the author's thesis. For example, World War I is more significant in world history than Watergate, but the latter probably serves a more important role in understanding the American press. Thus, Watergate holds a special place in the evolution of American journalism.

Questions Asked by Developmental Historians

To guide them through the research process, historians ask questions that are shaped by previous research and the approach utilized. Historians of the same school tend to ask very similar types of questions. When examining photojournalism a Developmental historian might ask:

1. What have been the major and minor photojournalism practices?
2. Who or what led to the establishment of these practices?
3. How were these practices sustained?
4. Why did certain practices cease?
5. How did photojournalists react to new ideas or techniques?
6. How did photojournalists blend into newsrooms?

These questions suggest that the Developmental history of photojournalism is primarily concerned with the continuities and discontinuities of its professional practice. Photojournalists and their photography are its main subjects, although issues of technology and the availability of publishing outlets are relevant to this research.

Using the Developmental Approach to Study Producers, Products, and Mechanisms

Developmental historians ask questions from a perspective of professional evolution. They are mainly concerned with the ways journalism has evolved to become a profession and the practices which have emerged. Although periods of significant change may appeal to

Developmental historians, their scope of inquiry is not limited to those most notable periods. For example, although the penny press may attract many Developmental historians, they might still be interested in less notable subjects, like the decline of newspaper circulation by postal mail.

To better understand this approach, it is applied to several components of a communication history model developed by John D. Stevens and Hazel Dicken Garcia.[38] This model is used to help researchers plot the process of mass communication and map their own contributions. It is a model of "interactions, processes, or mechanisms of persistence (or dissolution)." The elements of the model are the product, producer, process, context, and the mechanisms of persistence. Persistence mechanisms are those things which work to maintain a practice or situation, while dissolution mechanisms are those which work to end practices or situations (see figure 1). This model helps locate the focus of historians within the mass communication process.

This section examines the Developmental approach by demonstrating how a Developmental historian might study photojournalism of the 1930s and the adoption of the 35mm camera. To do this, the producer element of the communication history model is examined. A brief history is written of producers of 1930s photojournalism. Then, photojournalism products, as it relates to the product element of the model, of the 1930s are written about. Lastly, the mechanisms of the model have their turn. A Developmental history is written about the adoption of 35mm photography as a mechanism. These histories are brief in order to show how Developmental historians might view a subject. The histories are not designed to provide a comprehensive understanding of the subject or to provide new facts. Some elements of the model are not covered for the sake of brevity and the aim of this effort is not to explain the actual model. The purpose of this exercise is to demonstrate what a Developmental history of photojournalism could look like.

The Developmental approach is able to address the historical intersection of photojournalism's evolution and an era, such as photojournalism of the 1930s. For example, it was stated earlier that Developmental historians might ask questions pertaining to photojournalists' ability or desire to work in newsrooms and their adoption of new technologies. For example, C. Zoe

Smith discussed Kurt Korff's efforts to not only advise the planners of Life, but also his attempts to secure a job with the new magazine.[39] The series of questions Developmental historians might ask about photojournalism of the 1930s, in regards to the producer element, are discussed in three phases: the role of photojournalism within an era, the different types of photojournalists, and photojournalists' working relationships with fellow employees.

The Producer Element

First of all, in order to understand the photojournalist as a producer, Developmental historians would try to contextualize the role of photojournalism within the sphere of the occupation. To do this, it is often beneficial to consider the role of photojournalists during a time preceding the years under study. Developmental historians might ask: What was the role of the photojournalist leading up to the 1930s? A follow-up question might then be asked: What was the role of the photojournalist in the 1930s? These are rather straightforward questions which address basic photojournalism practice in the context of which newspaper departments photojournalists worked for and their role as editorial photographers.

Next, Developmental historians might want to consider the occupational differences between photojournalists. They could ask: Did photographers work in both the fields of documentary and photojournalism? Once differences are identified it might be helpful to consider how their training or education differed. They could also ask: What type of training or education did photojournalists have? Historians might examine the possibility that this background contributed to the type of photojournalists subjects became. In a related vein, they might consider if newspaper and magazine photographers influenced each other. Because the Developmental approach is concerned with occupational evolution, it is important to understand the origin of such influences or practices. These issues are of importance to Developmental historians because they help to further establish the varieties of photojournalism practiced.

The third consideration is the identification of the various kinds of relationships photojournalists maintained with other members of their organizations. Developmental historians might ask: Were photojournalists staff members or freelancers? Did photojournalists and other organization members, such as reporters and editors, respect each other? A final consideration is what effect the events of the time might have had on the role of photojournalists as producers and within their organization. These issues address what kind of work photojournalists did for employers and how photojournalists went about their jobs as producers. Were they perceived as editorial photographers, or as both editorial and advertising photographers?

Historians would not present their results as direct answers to these questions. Instead, they would weave their findings together. The following brief history is an example of how the Developmental might address the producer element and integrate the answers into a brief narrative. Photojournalists entered the 1930s without great fanfare. They were known as press photographers and the majority were employed at newspapers.[40] During previous decades, press photographers were assigned to newspapers' art departments along with illustrators and engravers. The increasing demand for images made it more practical for press photographers to work from newsrooms where editors could maintain greater control. Although photographers spent much of their time in darkrooms and labs, the move from the art department to the newsroom signified their emerging role as "journalists." Being identified as journalists also meant photographers were expected to uphold certain journalistic values. This did not mean photographs were not staged, posed, or altered in darkroom; it simply implied that the standards of right and wrong were set by editors rather than supervisors in art departments.

Press photographers lacked authority in the newsroom because they were new to this environment, they used cameras to communicate, and they were often less educated and refined than reporters and editors.[41] Magazine photographers often had better relationships with their editors and reporters. Although magazine photographers were not always treated as peers, they were held in higher esteem than newspaper press photographers. Generally, the magazine photographers were more skilled than their peers at the newspapers. Photographers like Walker Evans and Margaret Bourke-White, who worked for the Farm Security Administration, Fortune, and Life, were not newspaper photographers who moved to magazines. At the time, the shift from newspapers to national magazines like Life would have been difficult because of their different aesthetic standards and the subjects assigned to respective photographers.[42] One explanation for the greater respect they received is that documentary and magazine photographers tended to be better educated than newspaper photographers. It would not have been uncommon to meet one of the German magazine photographers and learn he was once a lawyer or businessman who abandoned his position because of boredom.[43] The same was generally true for American documentary and magazine photographers, who tended to be better educated or more trained than newspaper photographers. For example, FSA photographer Ben Shahn was college educated and a well-known painter, Dorothea Lange ran her own portrait studio after studying under pictorialist Clarence White at Columbia University, and Lewis Hine received a master's degree in sociology from New York University.[44] Despite their breeding, these photographers were able to authentically sympathize with the victims of the Great Depression. The best remembered images of the Depression were not taken by the press photographers who seem to have had more in common with the very poor; instead, the best remembered images were taken by the documentary and magazine photographers who spent more time with their subjects and studied their plight.

In review, during this era photographers were becoming journalists. Newspaper press photographers had a difficult time entering the newsroom, in part because they communicated with images and were less educated. Documentary and magazine photographers tended to be better educated and were able to gain more respect.

The Product Element

Developmental historians examine products, in this case photographs or publications, as representations of journalistic work. First, Developmental historians try to place the format of the products within historical context. They might ask: In what format(s) did the pictures appear? For example, were published photographs normally in black and white? These are important questions because they help to establish the physical qualities of photographs as products. Then, to place the product in evolutionary context: How did this format(s) differ from previous years? These questions help historians understand how much change or continuity there was in the product element.

Next, Developmental historians would consider how different products fit together as a combined, larger product. They might ask: Were images presented with text and/or with other photos? Photographs appearing in retrospective collections may be without original texts or original adjacent images, so addressing this issue reminds historians that images have their own histories. It also suggests that images should sometimes be studied in their original context. Looking at images in retrospective collections removes them from their original context and might change the meaning of the images.[45]

Developmental historians might examine how frequently photographs, as products, appeared in publications, which also are products. They might also ask how frequently photos provided by news photo agencies and the Farm Security Administration were reproduced. Developmental historians address these issues because they want to know how much publication content consisted of photographs, which somewhat indicates the importance of images within journalism.

The following is an example of how the Developmental approach might be used to analyze the product element. Photographs reproduced in publications of the 1930s appeared as black and white images. Although experimental color processes existed, none of these were sufficient for use by the press. The quality of reproduction ranged from excellent, like that of Life, to the very poor reproduction of many newspapers. The good publications were able to print photographs with a wide range of tones and intimate detail. The poor ones lost this range and many details. Newspaper photographers used press cameras which produced negatives that were five-by-seven inches to help overcome some of the problems of newspaper reproduction. This allowed them to make prints quickly, as long as the photographs were not greatly enlarged for reproduction. Reproduced images were accompanied by text written and edited by non-photographers.

The photographs used by publications came from staffers, freelancers, wire services, picture agencies, and government agencies. Newspaper photographs were usually printed without a photography credit and both negatives and prints were routinely thrown out.[46] Photographs were favored by newspapers for their immediacy and were generally not perceived as valuable historical documents. The Associated Press improved its distribution of photographs in 1935 by creating an efficient system of transmitting images.[47] Publications were happy to receive photographs from the FSA because they did not have to pay for them. They were distributed free by the government as an informational service.[48]

The documentary photographs appearing in newspapers and magazines suggested that photojournalism could be more than spot news.[49] These images were in contrast to the photographs appearing in tabloid and illustrated newspapers. Photographs appeared frequently in these papers and were used for their shock value. "Subtlety" was not a word which crept into the conversations of their editors and photographers, and quantity was stressed over quality.

In review, photographs were usually reproduced as black and white images. Photographs were provided by a large variety of sources, but they tended not to carry credits. The content of these images varied depending on the type of publication.

The Mechanism Elements

Developmental historians addressing the adoption of the 35mm camera are primarily concerned with the camera's emergence, adoption, and evolution of use. An initial question might be: When did 35mm cameras first appear? Knowing the answer leads to the question: What cameras were in use at the time by press photographers?

Developmental historians might also want to know more detailed information about the origins of cameras. Who invented the early 35mm cameras? Or, who developed the earliest or most successful version? Why did they bother if other cameras existed? These questions serve to establish the logic behind the origin of 35mm photography.

These historians would begin to consider the adoption of these cameras. They might ask: Who began using them, why, and when? Also for consideration is the adoption by the field of press photography and related fields like documentary photography. Finally, Developmental historians might consider the results of adoption by asking: How did the products differ? A more difficult question might be: How did the use of 35mm cameras differ from the use of preceding cameras? These last two questions relate to the product and process elements of the communication history model. Once basic answers are found, some historians may choose to further examine the subject using the product or process elements more intensely.

The following analysis is an historical overview using the Developmental approach. The 35mm Leica camera was invented in 1913 by Dr. Oskar Barnack.[50] He wanted to test 35mm movie film, so he made a small handheld camera which could utilize this film. The Leica was designed so that a series of exposures could be made and then quickly processed. The camera was not made available to the public until 1924.[51] The other major 35mm rangefinder camera available was the Contax, which supposedly offered higher quality lenses. When the Leica was made available to the general public, press photographers were using what were popularly known as press cameras. The most popular was the Speed Graphic.[52] Documentary photographers were using a variety of cameras, including press, field or Brownie cameras. Those photographers wanting to remain unobtrusive preferred smaller cameras like the Ermanox, Contax or Leica.[53]

The first professional photographers known to thoroughly adopt the 35mm camera were German magazine photographers. They used Leicas frequently during the 1930s because these cameras served as unobtrusive tools for photographing politicians and the general public. People were not aware that these metal boxes were actually functioning cameras because of their small size and relative newness. Rangefinders like the Leica had an advantage over the popular Rolleiflex cameras. With the latter, photographers had to look down into the viewfinder which made photographing a bit more awkward.

Some magazine documentary photographers in the United States adopted the 35mm camera in the 1930s. FSA photographer Ben Shahn liked its ease of use.[54] He often attached a right-angle viewer on his lens so people did not realize he was photographing them. His subjects thought he was photographing something or someone else because he was facing in a different direction. The 35mm camera lent itself to magazine photography because these photographers tended to take more pictures than newspaper photographers. Magazines had more space for photographs in their publications, so the extra film used in the 35mm camera was valued. Newspaper photographers were often required to find one scene which would tell the story, so the press camera suited their style.[55] Adoption was rather slow for newspaper photographers who did not totally rely on them until the 1960s. This coincided with the need to quietly and quickly photograph the events of the decade, like protests. Up until this period, newspapers were still less reliant on photographs for more than anything as filler, and press photographers were reluctant to change their habits.

War photographers adopted 35mm photography more quickly because of the hazards of using press cameras and Rolleiflexes. Using these cameras exposed photographers to more danger because their heads were more exposed during the photographing process. Some photographers working the Korean War followed David Douglas Duncan's lead of using Leica bodies with Japanese Nikor lenses.[56] In addition, photographers of the Vietnam War relied on the Leica or Nikon. Although, some photographers did acquire cheaper 35mm cameras because they were destroyed so quickly.

Adoption of the 35mm cameras depended on the subject photographed, improvements in film and reproduction, and the willingness of people in the publishing industry to accept change. Subjects who benefitted from looking more natural were early candidates for 35mm photography. If fine or detailed reproduction was needed, then 35mm photography wasn't always the best choice because of the camera's small negative size. However as 35mm film improved, this became less of an issue. Ultimately, adoption depended on the willingness of the publishing industry to experiment with new technologies. Newspaper photographers were reluctant to accept this technology because newspaper reproduction was poor until almost the 1970s. They depended on the press camera's large negatives to hold more detail, and they could also save time in contact printing the larger negatives.[57]

The adoption of 35mm photography is tied to the evolution of photojournalism. Photographers use equipment based on their needs. As described above, different types of photography did not need 35mm photography at the same time. As publication requirements changed, so did photojournalists' choice of equipment.

This exercise has demonstrated how a Developmental history of photojournalism could be written. Photojournalists were examined from a perspective that emphasizes their acceptance as journalists. Photographs were discussed in regards to how they were created and how they appeared in print. The 35mm camera was seen as technology that could affect how images look and it was argued that their acceptance by newspaper photographers was slow. A focus on professional evolution is evident in all three histories, which is a reflection of Developmental history in general.

Strengths and Weaknesses of the Developmental Approach

There are both strengths and weaknesses in the Developmental approach which are inherently related to its assumptions and which inevitably lend this approach to particular research endeavors. Its strengths are its body of work, which has accumulated over the years, its focus, and its accessibility to a wide range of readers. Its weaknesses, which tend to be related, are its over-reliance on a linear history, its tendency to affirm the validity of earlier research without a critical analysis, dependency on the historical narrative, and its utility in the critique of aesthetics. This subsection elaborates on these issues.

The Developmental approach's greatest strength is its own tradition of historical research. It is a relatively easy and convenient approach to use, and because of this, its scholars have produced a significant body of work. As a result of its emphasis on evolution, the histories produced by the Developmental school tend to built upon one another. The focus on occupational evolution becomes a strength because the knowledge is so focused. The simplicity of this approach also derives from its reliance on the historical narrative. This is an easily accessible form of presentation even for the general public. Overall, this tradition enables new scholars to easily enter the school because there are many examples of Developmental journalism history to serve as models for budding Developmental historians.

In many cases, a strength reveals a weakness because they are inherently related. A strength of the Developmental approach is the large and focused body of work it has produced, but its related weakness is that it lacks a diversity of viewpoints. Many Developmental historians were former journalists and they were primarily interested in journalistic progress and journalists themselves. They tended to ignore the social forces that impacted the press.[58] These weaknesses encouraged historians to consider other approaches, like Sidney Kobre's Cultural School or James Carey's version emphasizing symbolic meaning.[59] It can be argued that while the evolution of Developmental history is beneficial for its own historians because they can build off each other's work, this process is potentially problematic for journalism history in general. An over-reliance on Developmental history might lead to a limited view of journalism history, because a fixation on evolution results in a linear history with very little digression. The Developmental historians' tendency for building history upon available history can lead to uncontestable truth if earlier interpretations are not reevaluated. A counter-argument could occur from within the Developmental School or outside it. Most likely though, a dialectic would only emerge from outside criticism. The reason for this is the tendency towards conformity within the Developmental School. Changes within the Developmental School could be instigated from criticisms made by other schools. The Developmental School may be motivated to make changes to silence the criticism.

A second problem is the reliance on the historical narrative. The problem is not so much with the historical narrative as it is with the comfort with which it can be used. A habitual use of the historical narrative can lead to redundant histories. Jerzy Topolski emphasizes the nature of the historical narrative when he says that the use of dated time is what helps to differentiate the historical narrative from other narratives.[60] Some Developmental histories, like Cookman's article about Henri Cartier-Bresson, demonstrate how dated time does not need to be placed in a rigid historical chronology.

Developmental history offers the tools to identify significant photographers and technological innovations. Often times, the status of these photographers is not challenged, they are reaffirmed as great historical actors. Of the existing approaches, Developmental might be the most suitable host for an aesthetic component. This is because aesthetic devices are products of evolution. Even the most aesthetically-daring photojournalists learned some degree of artistic formalism. Since the Developmental approach is inherently interested in the evolution of a practice, their historians might already have the inclination to learn how this particular aspect of photojournalism evolved. In general, they might ask: Did the photojournalist intend to describe, explain, question the social relevance, or explore the visual qualities of a scene? Depending on the answer, an historian might then consider the photojournalist's influences and professional environment. Developmental historians interested in integrating aesthetics in to their research might consider how art historians and critics critique images.

A variety of options can be considered. One option for Developmental historians of photojournalism is to pursue more of an art history approach. In this approach historians identify: (1) the characteristics of the artist; (2) the artist's techniques; (3) the meaning of the artist's work; (4) the artist's influences; (5) how the works fit into a greater context aesthetically; (6) patrons and supporters. An art historian is like a literary historian in that they both understand the significance of aesthetic elements or devices, why these elements or devices are used, and how they correspond to other works of art. These scholars are not just historians of artists or of movements, they are also historians of texts (visual or written).

Terry Barrett offers one set of categories for photography critics, which can be used as an example of how to consider the aesthetics of photojournalism.[61] He identifies six types of photographs: descriptive, explanatory, interpretive, ethically evaluative, aesthetically evaluative, and theoretical.[62] Descriptive photographs "are painstakingly produced to be accurately descriptive and to be interpretively and evaluatively neutral." A NASA photograph of Jupiter and a driver's license photograph are examples of this type.[63] Explanatory photographs are often scientific, journalistic, or anthropological images. They go beyond describing to explain a phenomenon, process, or situation.[64] Interpretive photographs try to explain without scientific accuracy and are usually fictional.[65] Ethically evaluative photographs make ethical judgments. They may be documentary, journalistic, propaganda, or fictional images.[66] Aesthetically evaluative photographs address aesthetic issues. These images are what people generally think of as "art photography." Street photography is usually included in this category.[67] Lastly, theoretical photographs are about photography, and they may make comments on making art, politics of the art world, the different ways to represent subjects, and other issues relevant to photography. These images tend to be fictional and conceptual.[68] Besides identifying the type of photography, a critic also discusses internal and external contexts, makes interpretations, and provides judgments and reasons based on a criteria.[69]

Although photojournalism historians generally do not use Barrett's categories, they usually treat photojournalism as explanatory photography. Sometimes they even treat it as ethically evaluative photography. If they would like to discuss the aesthetics of photojournalism, historians might use the other categories, most likely aesthetically evaluative photography. Photojournalism historians might even consider establishing categories particular to photojournalism. Photographer Marc Riboud would be a good subject for an aesthetic examination. This photographer could be described as a photojournalist and documentarian. He is known for his political statements as well as his aestheticically-concerned photography. Photojournalism historian Claude Cookman recognizes Riboud's politics and identifies Riboud's work as ethically evaluative, although he does not use these exact words.[70] This research is notable because Cookman argues that Riboud had a political agenda while reporting on the Vietnam War. An historian could take the same images to study the aesthetic devices used by Riboud, and then explain how the photographs differ from other photographs. While there many not be many photojournalists whose styles are notable, a list could also include W. Eugene Smith, Sebastian Salgado, and Gilles Peress. The aesthetics of photojournalism is not the most important aspect of its history, but it is probably the most overlooked.

Conclusion

The Developmental approach has provided an historical foundation consisting of historical facts, situations, people, technologies and a timeline that are generally accepted by photojournalism historians. For example, historians can agree that in 1839 the French government recognized Louis Daguerre as the inventor of the first reliable photographic process. However, the same historians might disagree whether or not Daguerre really had the first process. An oversimplified description of the Developmental approach may be that it asks: Who did what, when, and how? This was exemplified in the discussion of the Leica's invention by a German engineer. Developmental history is marked by its focus on the internal evolution of an occupation, so social forces which impact mass communication as an institution are given little attention. It can be seen as the center of mass communication historiography because it has been popular with numerous historians during the twentieth century. The Developmental approach is utilitarian because it is largely free of socio-political ideology and it specifically addresses how journalists work. This approach will aid historians in the future as they discover more about the history of photojournalism.

A brief historical exercise was conducted to demonstrate how a Developmental history might appear. The Developmental approach provided the basic facts for the history of photojournalism in the 1930s and the adoption of the 35mm camera. At the producer, product, and mechanisms moments of the communication history model (see figure 1), the Developmental approach offered a brief history which could be easily adaptable or built upon by other approaches. This historical foundation results from the approach's emphasis on journalistic practice. Focusing on the producer element in photography makes the evolution of the photojournalist more apparent. Both journalistic and descriptive labels change as time moves forward and circumstances change.

The Developmental approach sees the evolution of photojournalism as photographic observation or reportage, next press photography, and then photojournalism. This represents a move from mere recording to an effort to explain and interpret news; and as the practices changed, new labels appeared to describe them. Thus, the Developmental approach enables historians to understand how journalistic practices change, and how these changes lead to journalists and/or historians labeling the practices and practitioners differently.

A significant component of the history of photojournalism is its technical side. The Developmental approach's capacity for studying technical aspects was briefly displayed earlier. Issues such as the tonal qualities of photographs can be addressed by this approach. The technical aspects are as important to photographers as knowing how to write a good lead is for reporters. Because of this importance and centrality to photographic practice, the Developmental approach might aid historians trying to learn more about the technical aspects. For example, historians might use this approach to understand how photographic printing evolved to satisfy the demands of new printing presses.

The history of the adoption of the 35mm camera is an example of how the Developmental approach can explain the utilization of emerging technologies. From the Developmental perspective, adoption is the result of photojournalists choosing to use equipment which serves their needs or the demands of their particular employer. More than any other approach, the Developmental perspective enables historians to weave together the historical evolution of people and technology to explain how technology is used and why it has been adopted.

Appendix

Figure 1

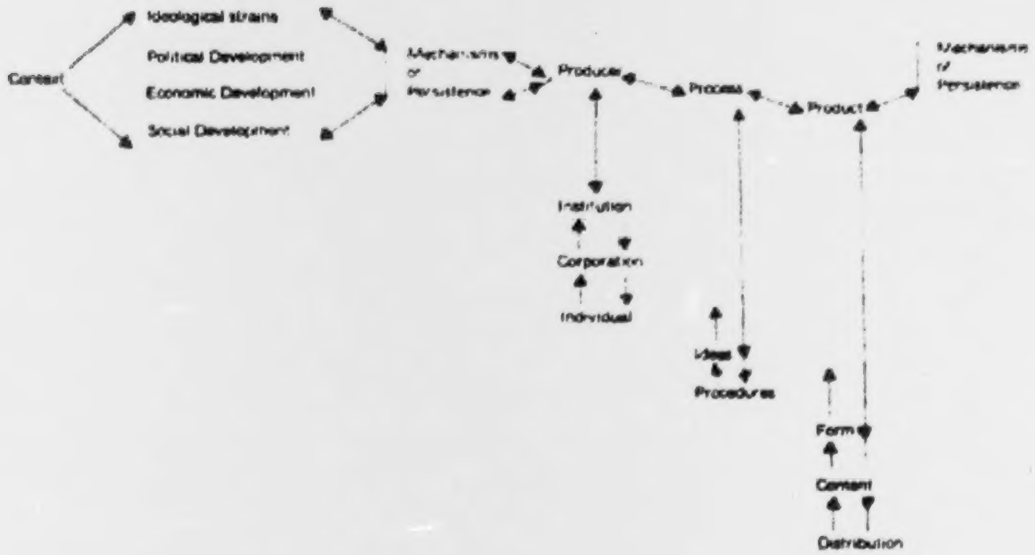
Context
Ideological strains
Political Development
Economic Development
Social Development
Mechanisms of Persistence
Producer
Process
Product
Mechanisms of Persistence
Institution
Corporation
Individual
Ideas
Procedures
Form
Content
Distribution

Figure 1: John D. Stevens and Hazel Dicken Garcia, Communication History (Beverly Hills: Sage, 1980), 17.

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Notes

1. Timothy Gleason, "A Review and Analysis of Selected histories of Photojournalism." A paper presented at the annual convention of the American Journalism Historians Association, Pittsburgh, Penn., 7 October 2000.

2. James D. Startt and Wm. David Sloan, Historical Methods in Mass Communication (Hillsdale, N.J.: Lawrence Earlbaum, 1989),20-22.

3. Startt and Sloan, Historical Methods, 19-39.

4. Startt and Sloan, Historical Methods, 25.

5. Frederic Hudson, Journalism in the United States, from 1690 to 1872 (New York: Harper and Row, 1873); James Melvin Lee, History of American Journalism (Boston: Houghton Mifflin Company, 1917); Willard G. Bleyer, Main Currents in the History of American Journalism (Boston: Houghton Mifflin Company, 1927; Frank Luther Mott, American Journalism: A History of Newspapers in the United States Through 150 Years: 1690 to 1940 (New York: The Macmillan Company, 1941).

6. Hudson, Journalism.

7. Startt and Sloan, Historical Methods, 25-26.

8. Herbert Butterfield, The Whig Interpretation of History (New York: W.W. Norton and Company, 1965), 11.

9. Startt and Sloan, Historical Methods, 28.

10. John D. Stevens and Hazel Dicken Garcia, Communication History (Beverly Hills: Sage, 1980), 17.

11. James D. Startt and Wm. David Sloan, Historical Methods in Mass Communication (Hillsdale, N.J.: Lawrence Earlbaum, 1989), 25.

12. Startt and Sloan, Historical Methods, 25.

13. Startt and Sloan, Historical Methods, 25.

14. Startt and Sloan, Historical Methods, 25.

15. Startt and Sloan, Historical Methods, 26.

16. Willard Grosvenor Bleyer, Main Currents in the History of American Journalism (Cambridge, Mass.: The Riverside Press, 1927), vii.

17. Frank Luther Mott, American Journalism: A History of Newspapers in the United States Through 260 Years: 1690 To 1950 (New York: The Macmillan Company, 1950), 670-671.

18. Mott, American Journalism, 743-744.

19. Mott, American Journalism, 790. This image actually appears opposite of page 790, but is given no page number of its own.

20. R. Smith Schuneman, "Art or Photography: A Question for Newspapers of the 1890s," Journalism Quarterly 42 (winter 1965): 43-52.

21. Tim Gidal, Modern Photojournalism: Origin and Evolution, 1910-1933 (New York: Macmillan, 1973).

22. C. Zoe Smith, "Germany's Kurt Korff: An Emigres Influence on Early Life," Journalism Quarterly 65 (summer 1988): 412-419, 424.

23. Robert S. Kahan and J.B. Colson, "More Than Art: P.H. Emerson as 19th Century Photojournalism Pioneer," Journalism Quarterly 63 (spring 1986): 75-82.

24. Claude Cookman, "Compelled to Witness: The Social Realism of Henri Cartier-Bresson," Journalism History 24 (spring 1998): 3-15.

25. Startt and Sloan, Historical Methods, 67.

26. Michael L. Carlebach, American Photojournalism Comes of Age (Washington, D.C.: Smithsonian Institution Press, 1997); Michael L. Carlebach, The Origins of Photojournalism in America (Washington, D.C.: Smithsonian Institution Press, 1992).

27. Startt and Sloan, Historical Methods, 25.

28. Herbert Butterfield, The Whig Interpretation of History.

29. James Melvin Lee, History of American Journalism (Cambridge, Mass.: The Riverside Press, 1923), 67.

30. Bleyer, Main Currents, iii.

31. Mott, American Journalism, vii.

32. Kahan and Colson, "More Than Art."

33. Startt and Sloan, Historical Methods, 27.

34. Startt and Sloan, Historical Methods, 159.

35. Startt and Sloan, Historical Methods, 160.

36. Jerzy Topolski, Methodology of History (Dordecht, Holland: D. Reider Publishing, 1976), 536.

37. For an interesting discussion on this topic see: Jerzy Topolski, Historiography Between Modernism and Postmodernism: Contributions to the Methodology of the Historical Research (Amsterdam: Rodopi, 1994).

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38. Stevens and Dicken Garcia, Communication History, 17.

39. C. Zoe Smith, "Germany's Kurt Korff: An Emigre's Influence on Early Life," Journalism Quarterly 65 (summer 1988): 412-419, 424.

40. For more information see: Michael Carlebach, American Photojournalism Comes of Age (Washington, D.C.: Smithsonian Institution Press, 1997); James C. Kincaid, Press Photography (Boston: American Photographic Publishing Company, 1936).

41. For more information see: Carlebach, American Photojournalism; Barbie Zelizer, "Journalism's 'Last' Stand: Wirephoto and the Discourse of Resistance," Journal of Communication 45 (spring 1995): 78-92.

42. Carlebach argues some photographers did newspaper and magazine work during the day and documentary work on the side. However, he offered no examples at this point and he did not address the problems of doing all three activities.

43. For more information see: Tim N. Gidal, Modern Photojournalism: Origin and Evolution, 1910-1933.

44. Cecil Beaton and Gail Buckland, The Magic Image: The Genius of Photography (London: Pavilion Books Limited, 1989), 164, 168-169.

45. Barbie Zelizer, "From the Image of Record to the Image of Memory: Holocaust Photography, Then and Now," in Picturing the Past: Media, History, and Photography, eds. Bonnie Brennen and Hanno Hardt (Champaign: University of Illinois Press, 1999), 98-121. Zelizer makes this point about changing meanings in her study of Holocaust images.

46. Carlebach, American Photojournalism, 71.

47. Carlebach, American Photojournalism, 164.

48. Richard Lacayo and George Russell, Eyewitness: 150 Years of Photojournalism (New York: TIME Books, 1995), 71.

49. Carlebach, American Photojournalism143.

50. Lacayo and Russell, Eyewitness, 67. See also: Marianne Fulton, Eyes of Time: photojournalism in America (Boston: New York Graphic Society, 1988), 125.

51. Lacayo and Russell, Eyewitness, 67.

52. For more information see: Fulton, Eyes of Time, 115; and Kincaid, Press Photography. Kincaid goes into great detail about the press camera and can be considered an original source.

53. The Ermanox was invented in 1927 (according to Fulton, Eyes of Time, 125) and was a small camera which actually utilized plates instead of film.

54. Naomi Rosenblum, A World History of Photography (New York: Abbeville Publishers, 1989), 382.

55. Carlebach, American Photojournalism, 177.

56. Fulton, Eyes of Time, 170.

57. Contact printing is a technique which allows the photographer to place a negative directly on top of unexposed photographic paper. This saves time because the photographer does not have to place the film in a holder inside the enlarger and then find focus. A contact print results in a print the same size as the negative. A 4-inch by 5-inch negative produces a print of that size, which was adequate for newspaper use during this period.

58. Wm. David Sloan, Perspectives on Mass Communication History (Hillsdale, N.J.: Lawrence Earlbaum Associates, Publishers, 1991) 7-8.

59. Sloan, Perspectives, 8-9.

60. Topolski, Methodology of History, 607-608.

61. Terry Barrett, Criticizing Photographs: An Introduction to Understanding Images (Mountain View, CA: Mayfield Publishing Co., 1990).

62. Barrett, Criticizing Photographs, viii.

63. Barrett, Criticizing Photographs, 53.

64. Barrett, Criticizing Photographs, 54-6.

65. Barrett, Criticizing Photographs, 59-60.

66. Barrett, Criticizing Photographs, 60-62.

67. Barrett, Criticizing Photographs, 64-8.

68. Barrett, Criticizing Photographs, 68-71.

69. Barrett, Criticizing Photographs, viii-ix.

70. Claude Cookman, "How Marc Riboud's Photographic Report From Hanoi Argued the Vietnam War Was Unwinnable," a paper presented to the Visual Communication Division at the annual conference of the Association for Education in Journalism and Mass Communication, New Orleans, Louisiana, August 1999.

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Normative Conflict in the Newsroom:
The Case of Digital Photo Manipulation

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Normative Conflict in the Newsroom: The Case of Digital Photo Manipulation

Journalism is usually viewed as a singular occupation with a singular set of norms and values. While role perceptions may differ somewhat (see, for example, Weaver and Wilhoit, 1996, ch. 4), these generally differ within the boundaries of the broader norms of the occupation, which center on objectivity, fairness and accuracy. This singular view holds sway in both the public perception and in the academic literature on news construction, which tend to view the work of journalism as synonymous with news-writing, with perhaps a side-glance at editing (e.g., Tuchman, 1978; Gans, 1979; Schudson, 1992; Shoemaker and Reese, 1996; Kaniss, 1991). It is the contention of this study that the work of journalism is not singular or monolithic, but instead is subdivided into occupational subgroups, each of which represent a different area of expertise. These subgroups compete with one another for legitimacy and for control over work in newsrooms. While these groups reflect an organizational division of labor, they also represent an occupational dimension. Photographers, reporters, designers and copy editors each have separate professional organizations, conferences and publications, and distinct curricula in many journalism schools.

It is also proposed here that journalistic work is subdivided culturally. Members of different occupational subgroups share differing sets of perceptions, practices and values that give meaning to their area of work. Various sets of norms conflict and coalesce as subgroups struggle with one another for recognition and influence in the newsroom. [i]

It is this normative clash that is most central to this paper, particularly as it applies to ethical breaches in journalism as perceived by news workers. Ethical problems are typically treated in the literature as cracks in the wall of professional standards. The case of digital photo manipulation, which is the example used in this study, is typically treated by academic researchers and trade-press writers as a problem of flawed decision-making by individuals. According to this literature, individuals make flawed decisions for a number of reasons, including: insufficient training and experience (Harris, 1991; Reaves, 1992/1993), poor communication among individuals (King, 1997; Irby, 1998), pressure from organizational and economic constraints (Tomlinson, 1987; Wheeler and Gleason, 1995; King, 1997) or the temptations of new technology (Ritchin, 1990; Harris, 1991; Tomlinson, 1987). Reaves suggests the culprit of unethical manipulation is the pressure to "sell, sell, sell," (1995b), especially in the case of photo manipulation on magazine covers.

Reaves (1995b) also hints at another possibility – that news workers have different perceptions about the nature of photography in news work. For example, magazine editors tend to view photos as subjective illustrations to a greater degree than do newspaper editors, who are more likely to see photos as representing "objective" news. These different perceptions reflect the existence of different sets of norms in newsrooms, some of which may challenge the traditional journalistic norm of objective representation. While the journalism ethicist would likely call for the suppression of rival norms, it is worth at least exploring what these norms are and how they interact. This paper explores rival occupational subgroups and rival norms in newsrooms, the ways in which they affect decision-making and whether news workers who adopt rival norms are more likely to make ethical breaches– in this case, manipulate photos.[ii]

Literature

Sociology of work, occupations and organizations

Before exploring literature on the nature of newsrooms norms, a theoretical foundation from the sociology of work is provided here. Subgroups in newsrooms are usually thought of as cogs in the greater machine – the division of labor serves newsroom efficiency (Solomon, 1995; Salcetti, 1995; Russial, 1998). This functionalist perspective is not the only way to view subgroups however. As mentioned, subgroups have agency, and they have occupational characteristics. Today most occupational groups work within organizational walls and meet organizational challenges to their ability to control work (Sonnestuhl and Trice, 1991; Abbott, 1991). However, employees may be more committed to their occupational group than to their organization, and occupational groups can be a reference group and a source of social identity for workers (Trice, 1993). Van Maanen and Barley (1984) originated the concept of the "occupational community," which refers to subgroup members who physically work within organizations, but "who consider themselves to be engaged in the same sort of work [with one another], who identify with their work, who share a set of values, norms and perspectives that apply to but extend beyond work matters" (p. 295).

Normative Conflict in the Newsroom: The Case of Digital Photo Manipulation

Perrow (1986) depicts organizational decision-making as less than rational and as deriving from multiple sources and levels. This perspective, which has its roots in the literature on "bounded rationality" in organizations (Simon, 1976 [1945]; Weick, 1976; March, 1997), opens the door to the possibility of inter-subgroup rivalry. Perrow says, "Organizations are tools; they mobilized resources that can be used for a variety of ends. These resources and the goals of the organization are up for grabs and people grab for them continually" (pp. 12-13).

Increasingly organizations house multiple occupational subgroups (Abbott, 1988). Organizations may be thought of as incorporating various subcultures, the members of which "seek to control their organizational destinies" (Bloor and Dawson, 1994, p. 285). In this view subgroups develop their own knowledge bases as well as codes and routines for constructing meaningful interpretations of the details of their professional world. The subgroup that most successfully defines the normative environment for a workplace gains greater legitimacy and control over its work (Abbott, 1988; Trice, 1993; Bloor and Dawson, 1994).

> What is important is the extent to which dominant groups get their values and goals accepted as legitimate . . . A particular group's interests become part of the taken-for-granted social reality that structures organizational life (Bloor and Dawson, p. 279).

This introduction of subgroups with new areas of expertise may pose a threat to management and to other organizational subgroups (Trice, 1993). New occupational groups may also form around new technologies, and new technology may be perceived as a threat by dominant organizational subgroups because it can have an empowering effect on the occupational status of weaker groups (Abbott, 1988; Greer, 1984). In an organization dominated by one particular subgroup, less dominant subgroups may pursue a number of self-serving strategies. They may seek to identify themselves with the dominant subgroup's norms and values. They may also seek legitimacy through the demonstration of their own unique norms, values, knowledge and codes at the expense of the dominant subgroup (Bloor and Dawson, 1994).

Norms and normative clash in media work

Normative Conflict in the Newsroom: The Case of Digital Photo Manipulation

The trade literature on newsrooms offers numerous examples of clashes between subgroups, most noticeably the "word journalists" and the "picture journalists." Moses (1999) says there is a "deep and unspoken wariness of visuals and visual journalists" in newsrooms (p. 15), and Kohorst (1999) argues that designers have too often received insufficient support from reporters, photographers and artists, who contribute raw material for their designs. Academic studies have found that visual journalists generally feel a lack of influence and respect relative to word journalists (Gentry and Zang, 1989; Bethune, 1984).

A handful of scholarly treatments have hinted at the existence of normative clashes in newsrooms. Zelizer (1995) describes how reporters and editors in the 1930s resisted the new imaging technology of the photographers. Writers and editors, the newsroom's dominant professional groups, "did everything they could do to undermine [photography's] growing presence" (p. 83). Gans (1979) and Sigal (1973) discusses the active negotiation among newsroom subgroups in newsrooms, while Bantz (1997) discusses the tension between professional journalistic norms and "entertainment norms" in television news.

The depiction of "journalistic norms" varies across the literature, but the most common norm ascribed to journalism is objectivity. Walter Lippmann (1922) said the path to improving journalism, and therefore public knowledge, lay through science and objectivity. Journalists have the power to choose news stories "in exchange for leaving out their personal views" (Gans, 1979; p. 183) and for pursuing "balanced reporting of the facts" (Soloski, 1997). Weaver and Wilhoit (1996) found that the unearthing, verification and dissemination of facts were at the heart of most journalists' belief systems. Schwartz (1992) notes that photojournalists acquire professional legitimacy by " preserving the objective aura cast around the photographic image" (p. 107).

The news constructionists, however, have defined journalistic professionalism as "knowing how to get a story that meets organizational needs and standards" (p. 66). This view implies that organizational constraints and the desire to accomplish work may trump norms of objectivity, accuracy and completeness (Roshco, 1975; Tuchman, 1978; Fishman, 1982). Visual journalists also adopt these organizationally-oriented norms as evidenced by routines such as the "previsualizing" of specific types of shots prior to photo shoots (Barnhurst, 1994; Lowrey, 1999).

There is evidence of other occupational norms in the work of news presentation. Nerone and Barnhurst (1995) detail the growth of commercial art in America, springing from the modernism of Europe, finding a home first in advertising and fashion magazines and eventually bleeding over into newspaper work via entertainment and women's sections. They say: "One senses that "serious" journalists came to shun the sections more and more over time, and this may be what allowed the sections to become centers for design innovation" (p. 24). Eventually the design emphasis was to spread throughout the newspaper, and it seems reasonable to suppose that newsrooms today experience normative clash as a result of the presence of both journalistic and commercial art subcultures, among others.

According to the sparse literature on commercial art work processes, some commercial artists see their work as oriented toward organizational processes and needs, while others lean toward the less practical norms of fine arts. Becker's (1982) "integrated professionals" are commercially oriented artists who adopt the value of the organization within which they work, and who are highly conscious of perceived audience needs. Ryan and Peterson's (1982) "product image framework" model is similar to Becker's integrated professionalism. Within this framework, artists in organizations shape their creative works so that they are likely to be accepted by decision makers at the next link in the chain. Griff's (1960) "commercial-role artists" define their work as successful when "the requirements of the client have been met as parsimoniously as possible" (P. 231).

At the other end of this normative spectrum is what Griff calls the "traditional-role artist." Traditional role artists situate themselves in the fine arts world and experience role conflict with their occupation in commercial arts. Traditional-role artists value the inner expression of "God-given" talent (p. 230). They deny the conformist nature of their job and seek to portray their work situation as free-from-restriction. Becker's (1982) "maverick" artists find the norms of their conventional work world confining and diligently pursue innovation. They tend to get hostile receptions from "integrated professionals" because their work is difficult to incorporate into the normal processes of ordinary production

Photo manipulation

Normative Conflict in the Newsroom: The Case of Digital Photo Manipulation

The literature on digital photo manipulation makes little mention of multiplicity of norms. As mentioned, most studies approach photo manipulation in a functionalist frame – as a breach of a singular code of ethics. Reaves (1995c) calls for greater protection of "the essential shared values of journalists," (accuracy, balance, relevance and completeness). Technology itself is often the culprit (Harris, 1991; Ritchin, 1990), while ethics case-study treatments tend to view the problem as a lack of effective communication among departments (King, 1997; Irby, 1998). Reaves (1995a, 1995b) and Wheeler and Gleason (1995) suggest the importance of economic factors in decisions made to alter editorial photos.

Reaves (1992/1993, 1995a) explores factors that explain differences in levels of permissiveness toward digital photo manipulation within and across newsrooms. These factors include organizational size and educational backgrounds of editors. Smaller newsrooms are more likely to be permissive toward photo manipulation, and editors with lower levels of journalistic professional development are more likely to express permissiveness (Reaves, 1992/1993). Within newsrooms, the categorization of photos as "news" or "features" predicts permissiveness toward manipulation (Reaves, 1995a). In a historical study, Lowrey (1998) found that the degree to which news photos were perceived as news and therefore as off limits to manipulation reflected the degree to which photojournalism was perceived as being the work of *professional* journalism. Differences across media types have been found as well. TV news directors tend toward less strict standards in application of photo imaging technology than newspaper photo editors (Gladney and Erlich, 1996). Magazine editors have also been found to be were more permissive (Reaves, 1995a).

Concepts, findings and methods

The literature suggests a new framework within which to examine newsroom decision-making. It is proposed in this study that the newsroom comprises a number of subgroups, each embracing unique norms and values (although there are commonalities among subgroups as well), and each vying for legitimacy and control over work. This study examines the case of newspaper presentation work, with a specific focus on decision-making about photo manipulation. In this framework photo manipulation is a breach of traditional journalistic norms, but the newsroom environment includes other norms as well – those of the commercial artist or fine artist, for example. It is assumed that news organizations and the occupation of journalism are not impermeable and are susceptible to normative influences beyond their borders. While obviously out of bounds according to traditional journalism values, which are likely dominant, photo manipulation may be perceived as more justifiable according to different norms.

This study is conducted in two complementary methodological parts. The first part is a series of exploratory interviews conducted with visual journalism managers at a visual journalism conference. These interviews inform the second methodological component, a national survey of newspaper design directors at large newspapers. Interview results serve to unearth concepts and categories used in the survey analysis, and survey results help generalize interview findings and are interpreted in light of interview findings.

In-depth interviews

Research questions and method

Two research questions are asked:

1. Which norms do members of occupational subgroups involved with photo and presentation work observe and to what degree?
2. How does competition among occupational subgroups and the observance of different sets of norms impact decision-making about the manipulation of photos?

To shed light on the research questions, semi-structured, in-depth interviews were conducted with 17 visual journalists: six newspaper photo directors, three newspaper art directors and eight newspaper design directors. Fourteen newspapers were represented in this convenience sample, with three pairs of design and photo directors deriving from the same papers. Most of the directors were from large dailies, with 13 of their newspapers having circulations over 200,000. Four of the papers have circulations between 80,000 and 120,000. Six of the represented papers were in the South, three in the Northeast, two in the Midwest, one in the Southwest and five on the West coast. Twelve of the interviews were conducted personally at a four-day professional conference of visual journalism managers. Five of the interviews were conducted over the telephone within a two-week period following the conference. Interviews were taped, and each lasted between 45 minutes and an hour. Observations were made during conference sessions, which consisted of workshops and discussion sessions, and data were also drawn from materials respondents brought to the conference. Observations and supplementary material helped to validate interview findings.

Interview questions derived from the literature. As much as possible, interviews were grounded in the respondents' daily work experiences. This was accomplished primarily by looking at actual newspaper pages during interviews. Afterward transcripts were analyzed and responses were categorized as themes emerged.

Interview findings

In regard to the first research question, three major sets of norms guiding the work of newspaper presentation emerged. To some degree these sets of norms reflected the norms discussed in much of the literature discussed earlier.

1) *Journalistic norms.* In the literature these norms typically refer to the pursuit of objectivity, accuracy and completeness. To these visual journalists, however, journalistic norms represent the prioritization of news content over design as well as the ability to "talk the talk" of journalism. The norms of news are embraced more for the stature they provide in the newsroom than for their guiding principles (objectivity, accuracy, etc.). However, knowledge of news judgment and the ability to portray news accurately and objectively are also valued by visual journalists pursuing journalistic norms.

2) *Art norms.* Art norms in visual journalism dictate that staffers value the visual aesthetics of a photo, graphic or a page. Self-expression and artistic "voice" are considered important. Art norms are sometimes embraced as a defense against the more dominant journalistic culture in newsrooms. Pages and elements should catch the client's eye, which is representative of the values found in commercial graphic arts. As Becker (1981) suggests in his sociological treatment of art professionalism, for the commercial artist, ideas of commercial success are intertwined with ideas of aesthetic success.

3) *Integrative norms.* The staffer following integrative norms is "integrated" into the patterns of the organization and knows how to efficiently shape work to meet organizational

approval. This staffer values organizational efficiency and financial success, knowledge of work-accomplishing strategies, and interdepartmental cohesiveness and consistency. These norms also dictate that the fit between image and story are highly important.

How do the acceptance or rejection of these norms affect decision-making about photo manipulation?

Interview findings suggested that the cultural *norms of journalism* are dominant in newsrooms. Respondents generally agreed that photos are news and should be framed objectively. The idea of art for art's sake, or of photos as ornamentation were strongly rejected in the interviews. Visual journalism managers acknowledged their artistic backgrounds and the art norms of the occupation, but they either ignored art norms or drove them underground. In fact the impact of art norms took on more of a subversive form.

Almost without exception, the values of accuracy and objectivity are spoken of with reverence, and most managers say they look for journalism school graduates when hiring. It was uncommon for their photographers to have work experience in fields outside of journalism such as advertising or popular non-news media, but it was more common for artists and designers to have this background. However, some managers have converted desk editors to designers. As one design director said, "the procedure . . . is to move from news workhorses to high-design show-horses."

While journalistic values were seen as worthy of pursuit, they were often spoken of as something just beyond the grasp of the visual journalist. One design director said that editors and writers do not take visual journalists seriously: "At the news meetings you're in a room full of smart, opinionated people, and it's difficult to bring in an opinion that doesn't sound subjective." One West-coast design director said some of her designers lack confidence because of their lack of journalism background: "We work on getting them to articulate their reasons for designing." Visual journalists feel a need to learn the language of reporters and editors. Another design director said, "we've tried to build our credibility and clout in the newsroom . . . before we can make recommendations and expect people to follow them, we have to know how to talk a story."

For photo directors, practicing journalism seems to mean accurately representing the stories the photos accompany rather than directly representing the "world out there." It is assumed that the reporter has already brought back the "truth," or a close approximation. Among the interviewed photo managers there was little tolerance for purely artistic representation and therefore little evidence that they would alter photos for aesthetic purposes. A vignette by a photo director from a Southwestern daily demonstrates this situation.

> One of our photographer's went out to shoot photos for a story we were doing on a rundown old housing project just outside of town. He came back, and the photographs he showed me had a graphic quality that was stunning. The lighting was perfect. But it was clear the photographer had gone out and shot a picture for *himself.* It was just a graphic. It had nothing to do with the story. The photo should have reflected the story.

A West Coast paper's photo director explained his photo assigning philosophy: "I've always wanted to know what the story was about first in order to think about the best way to go about illustrating it . . . this is the approach we take here, and in most cases it works."

Art norms were discussed in conflicting ways. On one hand some photo directors discussed the importance of self-expression in their staff photos and of the "inner voice" and "stylisitic personality" of their photographers. On the other hand neither photo directors, art directors, nor design directors overtly embraced the concept of "art for art's sake." One design director describes his department as "newsy and business like." He said, "we try not to do anything artsy for arts sake. We try to be very content driven . . . we think news." An assistant design director for a Southern daily said that when hiring, they looked for designers who have "an appreciation for the content — the story telling aspect as opposed to ornamentation."

There is limited evidence that art norms could encourage permissive attitudes toward the altering of photos. One art director described why removing backgrounds from photos was sometimes necessary to attract readers:

> The artists believe the world is getting so much more visual, and there's so much competition. If you don't pull out all the stops and do all kinds of exciting, innovative stuff, people won't read

> the paper. . . People don't want endless rectangular photos and gray type. If you can integrate images and text more fluidly and more dynamically, it will make a more exciting page.

A few managers rejected photo altering for aesthetic reasons rather than for journalistic reasons. An art director described his problems with one of the photo illustrations in his paper: "it looked hokey — it wasn't worked enough," while another photo illustration was acceptable because the artist "had talent for this sort of illustration." Several art and photo directors said they disliked masked photos (with the background cut out), not because they are less news worthy, but because the "technique is cliche" or because "that tool is overused."

Despite the overt rejection of "art for art's sake," directors said they used the language of visual journalism to gain influence in the newsroom. Incidents related had a mischievous quality. During a conference session, photo directors described how they and their photo editors intentionally use cryptic artistic jargon when discussing photos with news editors in order to influence photo selection. Other directors spoke of the need to "educate," or "manipulate," word journalists in order to influence the news-play process.

The acceptance of *integrative norms* appears to be especially important to decision-making about photo manipulation. Design directors stressed the importance of seamless, coherent integration of page elements – that readers require conceptual and visual fit between story, photo, graphic and headline. Production of these highly designed packages require more preplanning and coordination from all subgroups, including word journalists and photographers because designers cannot piece together the "puzzle" until they have the puzzle pieces. Under integrative norms the emphasis is on good "fit." The page itself is the true representational context for news elements. In other words, it becomes more important that a news photo fit with a preconceived page theme and structure (especially one that will attract readers), and less important that it fit with the external reality represented by the photo's content.

Interview findings suggest that the integrative norms of page design may be influencing the way photographers define their own professional mission. Photographers who accept the preeminence of page unity and good fit may be more willing to illustrate existing stories and preconceived packages than to be news gatherers themselves. When news photos are illustrations — when their real news value is not intrinsic but is instead determined by how accurately they fit word journalists' stories and designers' page designs — the journalistic taboo on altering them may erode. Photos may be viewed more as raw material for the news "product" than as news itself.

Findings also suggest that photo alteration is more acceptable if there has been collaboration between the relevant occupational subgroups. If for example, the designers have discussed the proposed alteration with photo editors — if the concerns of the photographers have been voiced and heard — the alteration is more likely to be allowed. A design director from the Northeast says, "I do not like going around a department and manipulating a photographer's work without involving him in the process . . . but I'd say more times than not my [photo alteration] ideas get executed with the photographer's involvement." Discussion between photo staff and designers may result in photo altering, but for the discussants, the nature of the altering is transformed by the collaboration. The resulting manipulation is no longer considered an ethical violation – it is in bounds.

The survey

Hypotheses and method

Interview findings, along with the literature, suggest several possible predictors of photo manipulation and of level of permissiveness toward manipulation. Hypotheses were constructed to test these predictions, and concepts were measured through data from a national survey of design directors at large U.S. newspapers.

Within academic and trade literature there is no final concrete definition of unethical digital photo manipulation, but it is generally agreed that a photo has been unethically manipulated if the alteration changes elements as originally seen in the camera's "viewfinder" and if this alteration violates public trust (Davis, 1992; Wheeler and Gleason, 1995; Martin, 1991; Gladney and Erlich, 1996). For example, the public expects photo cropping and even some airbrushing of glamour photos, but seamless alteration that goes beyond the commonly understood is unethical (Wheeler and Gleason, 1995). Most importantly for the present study, concealed manipulation violates shared journalistic norms of accuracy and completeness (Reaves, 1995c). These are the traditional norms of mainstream American journalism, and it is assumed in this study that these norms will be dominant in survey respondents' newsrooms. The criterion variable – "unethical photo manipulation" – is defined in terms of individual design directors' perceptions of violations of these norms.

The survey measure of the criterion variable is worded: "Within the last two years have any news photos been digitally altered in your newsroom in a way that were viewed in your newsroom as unethical or unauthorized?" Whether the manipulation constituted "actual" unethical manipulation by some objective industry standard is not relevant here. What is important is whether there is a general understanding in the newsroom that a breach of a norm of the dominant newsroom culture has occurred. The two-year period is somewhat problematic, in that some predictors could have changed since a manipulation occurred. However, it was felt that the two-year span was needed in order to achieve sufficient variability in the responses across newsrooms.

A second criterion variable is the existence of rules governing the manipulation of photos. While manipulation itself is evidence of a violation of dominant cultural norms, existence of formal rules should be evidence of the strength of journalistic norms in the newsroom's culture. A factor that positively predicts unethical photo manipulation should negatively predict the existence of rules against manipulation. If rules against manipulation are adopted, this stands as evidence that the organization embraces the norms and values of the profession as its own in the form of organizationally sanctioned rules. Yes, managers who embrace such rules may do so for the purpose of covering themselves from angry audiences, or to perhaps reduce the possibility of lawsuits. Nevertheless, they are still accepting the idea that objective representation matters. The managerial adoption of photo manipulation guidelines is by no means logically inevitable from management's perspective – it is possible, for example, to imagine that altered photos might bring excitement to the product, and therefore attract audiences. Reaves' (1995c) findings that magazine editors are more permissive toward manipulation on magazine covers lends support to this idea.

Design department directors serve as survey respondents, and they answered questions about their staffs and themselves. While most studies of photo treatment measure responses from photo staff, design directors have a strong influence, as they oversee the final selection, sizing, placement – and manipulation – of photos. According to the survey, around half of design directors and news editors surveyed said designers have "a great deal or complete" control over image selection, and around three-quarters said designers have a great deal or complete control over layout. Also, over half of the design directors surveyed said that most of their staffs were "proficient" in the use of photo manipulation software.

Interview findings suggest that different sets of norms do exist in the work of news presentation. It is expected that the relative strength of these norms should be different across news organizations. It is proposed that stronger orientation toward journalistic norms within design subgroups would predict less likelihood of photo manipulation, and greater likelihood of rules governing manipulation, as such norms reflect the importance of accuracy and completeness of representation. These norms hold that the "world out there" can and should be factually reflected in the camera's viewfinder. Steps taken to alter photos for purposes of ornamentation fly in the face of factual representation and violate public trust. Journalism orientation in the subgroup is defined sociologically as the structures of professional journalism experienced by the subgroup (attending journalism schools, being members of journalism professional organizations, attending professional journalism conferences, etc. See Table 1 for measures of all variables).

H1a: The stronger the orientation of the design staff toward journalistic professional norms, the less likelihood of unethical photo manipulation.

H1b: The stronger the orientation of the design staff toward journalistic professional norms, the greater the likelihood of the existence of rules governing photo manipulation.

It should also be the case that strong artistic norms predict greater likelihood of photo manipulation and decreased likelihood of the existence of rules. Strong art norms among designers should suggest that photos are viewed more as illustrations and less as news, and that therefore the professional taboo against manipulation would be weaker. "Self-expression" and aesthetic quality would be considered more important in the subgroup, relative to the values of objective representation. There is evidence from interviews that art norms may, on occasion, subvert the dominance of journalistic norms. As with journalistic norms, orientation toward professional art norms was measured by questions about educational background, hiring criteria and professional affiliation.

H2a. The stronger the orientation of the design staff toward art professional norms, the greater the likelihood of unethical photo manipulation.

H2b: The stronger the orientation of the design staff toward art professional norms, the less likelihood of the existence of rules governing photo manipulation.

Interview results indicate that photo manipulation for illustrative purposes may be considered more acceptable if the staffer doing the manipulation is recognized as proficient, which would indicate that the results would more likely be aesthetically pleasing. Proficiency with software is an important component of overall proficiency. It is also suggested in the literature that the more extensive the use of photo imaging software, the more likely is an incident of photo manipulation. These premises lead to the following hypothesis.

H3: The greater the degree of design-staff proficiency with the technical tools used in photo manipulation, the greater the likelihood of unethical photo manipulation.

The literature and interviews suggest that news workers are strongly influenced by organizational factors. It should be that the greater the pressure from organizational constraints, the less attention to journalistic norms. Photos will more likely be altered when designers feel severe time pressures. On the surface this seems contradictory. Would it not be quicker to use a straight photo rather than spend the time altering one ? Perhaps so in the case of hard news, but manipulation practically never occurs in hard news sections. Altered photos are more acceptable in soft news or opinion pages where stories tend to be more abstract and harder to illustrate with straight photos (Reaves, 1995a, 1995b). Interviews indicated that designers value "good fit" between story and image and are judged by their ability to produce fit. Photo manipulation is a quick route to good conceptual fit, because the symbolic nature of photos may be bent or rearranged to match symbolic messages in the text. At least two well-known incidents of photo manipulation involved a situation where the designer, feeling time pressures, altered the photo to achieve fit between story and image (King, 1997; Irby, 1998). Factors that increase time pressures should predict a greater degree of unethical photo manipulation and less likelihood that rules forbidding manipulation will be made.

H4: The higher the level of organizational time constraints on designers, the greater the likelihood of unethical photo manipulation.

Larger organizations should have greater resources for professional education as well as more staff resources. Reaves (1992/1993) found larger newsrooms had less tolerance for manipulation, which she said reflected the ability of such organizations to hire (journalistic) professional expertise and train staff more extensively. It should also be the case that organizations with a more extensive division of labor would have a more flexible structure within which to shift resources on deadline so as to ease time constraints on designers.

H5a: The larger the news organization the less likelihood of unethical photo manipulation.

Organizational size is related to the degree to which rules are formalized. The increased complexity of large organizations requires the existence of more bureaucratic rules (Hall, 1999; Blau, 1970). Therefore larger newsrooms should be more likely to have rules governing photo altering. It is also the case that larger organizations should have more resources for the support of professional staff development among visual journalism managers, and such development would likely lead to a greater awareness of the potential ethical problems of photo manipulation.

H5b: The larger the news organization the greater the likelihood of the existence of rules governing photo manipulation.

Finally, managers of news organizations that have had less success reaching readers should feel a greater need to push the boundaries of presentation. Reaves (1995c) and Wheeler and Gleason (1995) suggested that the pressure to sell was a contribution to decisions to manipulate photos. Degree of attention paid to graphic design at the expense of journalistic norms has historically gone hand-in-hand with an effort to expand circulation.

H6: The lower the rate of recent reader penetration, the greater the likelihood of unethical photo manipulation.

These hypotheses were tested through data deriving from a national telephone survey of design managers at all daily U.S. newspapers with an average weekday circulation of over 50,000. The sample, taken from a 1999 Editor and Publisher database, included 233 newspapers. Phone-interviews began the first week of January 2000 and continued through the third week of April. Design directors at two different papers were pretested on the survey, and the survey wording was discussed with these respondents after these interviews. Five trained undergraduate research clerks and one graduate student assisted the researcher in the interviewing. Ultimately, completed surveys were obtained from 230 of the 233 respondents, for a rate of 98.7%. Because these return rates are so close to 100%, inference to the larger population was deemed unnecessary. An *Editor & Publisher* database also provides data on circulation figures, and data from *Audit Bureau of Circulations* reports were used for reader penetration figures.

Survey measures appear in Table 1. Survey measures for the predictors Strength of Journalism Orientation and Strength of Art Orientation were standardized and scaled, with alphas of .61 and .56, respectively. That these alphas are fairly low is not surprising, as the measures sample a wide array of the conceptual dimension, and are therefore high in content validity. Strength of relationship between predictors and criterion variables are reported as gammas in the text, as criterion variables are dichotomous and predictor variables are ordinal. Pearson correlation coefficients are reported in the tables as well.

Survey findings

Hypothesis 1a received practically no support (Table 2). The degree of orientation of the design subgroup toward journalistic professional norms was not a predictor of the degree of photo manipulation that was considered unethical. The variable Journalism Orientation only improved prediction of photo manipulation by 2%. Hypothesis 1b also received no support, but here Journalism Orientation, while a moderate predictor of the existence of rules about photo manipulation, predicted negatively, which was opposite to the anticipated direction (Table 3). It was thought that a design subgroup that possessed a stronger orientation toward journalism norms would be more likely to value objective representation in photos, but journalism orientation by the design subgroup worked against the establishment of formal rules against manipulation. A likely explanation for this phenomenon is that the staff may have little involvement in the establishment of department rules. A better test may be the journalism orientation of management. In fact normative orientation of the design director was a slightly better (but not strong) predictor of the existence of rules, improving prediction by 14%.

Hypothesis 2a received limited support (Table 4), as Art Orientation of the design subgroup had a positive relationship with existence of photo manipulation. Art Orientation improved prediction of Photo Manipulation by 13%. Hypothesis 2b also received slight support (Table 5), as Art Orientation varied negatively with the existence of rules, and improved prediction of the existence of rules by 11.1%. When only the Art Orientation of the design director is tested, prediction of photo manipulation improves to 22.5%.

There was little support for Hypothesis 3, which stated that extent of design-staff proficiency with manipulation software predicts the existence of manipulation. Extent of design-staff proficiency with software improved prediction of photo manipulation by only 9% (Table 6).

There is also little correlation between the intensity of daily organizational constraints on designers and level of photo manipulation, and therefore Hypothesis 4 receives no substantial support. User difficulty with pagination technology and page load of designers (number of pages to design per designer) mattered little to the existence of unethical photo altering (Tables 7,8). Frequency with which designers received material in time to perform work effectively was a weak predictor as well, improving prediction by only 9%.

The findings on the relationship between organizational size and photo altering are interesting. In the test results of Hypothesis 5a there is a moderately strong relationship between organizational size and the existence of photo manipulation, but the relationship is opposite to the hypothesized direction (Table 9). As organizations grow in size, the likelihood of a photo being manipulated in an unethical way *increases*. Perhaps because larger organizations use more images in a wider variety of contexts, sheer quantity of image use increases the likelihood that somewhere along the line a photo will have been altered. Reaves (1992/1993) found that editors of smaller papers were much more likely to condone the altering of photos than editors at larger papers, and she suggested that editors at smaller papers were less likely to have been exposed to professional training warning of the ethical problems of manipulation. Apparently, however, the sheer complexity and size of an organization is a more important factor in predicting *actual* manipulation than level of professional sophistication or education. This finding bears out what some of the case studies on photo manipulation found – that poor communication in large, complex newsrooms with many subgroups and agendas – was likely to lead to cases of photo manipulation.

Another possibility exists. It may be that the boundaries of what constitutes "unethical photo manipulation" to a design director of a larger paper are more broad than the boundaries of what constitutes manipulation to a design director at a smaller paper. This possibility leads us back to Reaves' explanation that professional development plays an important role in perceptions of the nature of photo manipulation. In the end, there are likely many explainers. It is likely that increase in probability due to sheer number of images, increased challenges to effective communication among subgroups in large complex newsrooms, *and* differing perceptions of what constitutes photo manipulation all account for the finding that larger organizations are more likely to have instances of photo manipulation.

Hypothesis 5b received substantial support. Variability in organizational size improved prediction of rules by 43%, showing that size increase leads to greater likelihood of formal rules (Table 10). This finding is not surprising, as formalization of rules is more likely in complex organizations. It seems however, that while larger organizations may have more rules governing manipulation, communication problems and the sheer volume of images may severely challenge the effectiveness of the rules.

Hypothesis 6 predicted that at papers that had recently experienced less success reaching readers, managers were more likely to embrace visual presentation as a high priority and were therefore more likely to push the boundaries on photo altering. The relationship was positive, but slight. Generally the hypothesis received very little support (Table 11).

Finally, although not hypothesized, it is reasonable to wonder what effect the rules themselves have on the likelihood of unethical manipulation. There is actually a strong *positive* relationship between the adoption of rules and the likelihood of manipulation (Table 12). At first glance this seems counterintuitive. However, this relationship may be an artifact of organizational size and complexity. Managers in larger, more complex organizations are more likely to feel the need for rules, while at the same time, the complexity of organizations likely leads to a proliferation of subnorms, subgoals and subvalues and more unwieldy internal communication structure. This is fertile ground for an ethical breach. And it may also be that the existence of formal rules is actually an indication of weakness of journalistic norms. If norms are strong, why would overt, formal rules be necessary ?

Discussion

Survey results provided only moderate support for in-depth interview findings, but interpreting survey results in the light of interview findings is helpful. Interview results suggest strongly that newsrooms of moderate to large size are subdivided into different occupational subgroups, each with distinct norms, values and expertise. However, interview findings also suggest that journalistic norms are dominant. Interview findings indicate that strong journalistic norms lead to the perception that photos should represent the reporter's interpretation of the world out there rather than the photographer's experience of the "world out there." Visual journalists discuss their belief that word journalists alone are able to represent objectively, while photographers, artists and designers are perceived to inject subjectivity into both their work and into planning meetings. It is clear that word journalists have cultural control. The norms of word journalists have, as Bloor and Dawson (1994) say, "become part of the taken-for-granted social reality that structures organizational life" (p. 279).

Yet the work of visual journalists seems to reflect less a pursuit of the actual content of traditional journalistic norms (objectivity, accuracy, etc.), and more a pursuit of the approval of this dominant subculture. This is not to deny that there are many visual journalists who embrace the values of objectivity and accuracy – only that interview respondents spoke most passionately about being *perceived* as journalists. Interview respondents typically indicated that decision-making by visual journalists should be consistent with – actually follow – decision-making by word journalists. It is most important that the content of photos and graphics not "veer right" while the content of the written stories "veer left." The pursuit of journalistic norms, then, becomes an adoption of integrative norms. Good fit, internal consistency and smooth work processes are especially important normative goals of visual journalists.

While journalistic norms were strong, interviews suggested the possibility of art norms subverting journalistic norms. In several cases, for example, visual journalism managers justified their opposition to manipulation with aesthetic arguments, which begs the question, would they have approved the manipulation in the cases they describe if the manipulation had been aesthetically pleasing? Interview findings also suggest that integrative norms were powerful, leading to the possibility of manipulation for the sake of consistency among page elements. However, variables measuring time pressures on designers, which it was supposed would put pressure on designers to alter photos at the last moment for the sake of good fit, were not predictive of photo manipulation or the existence of rules.

There was also evidence of commercial art norms in the subservience to "word journalists" voiced by these managers. Nerone and Barnhurst (1995) discuss the commercial-art origins of journalism design and designers, and one of the prevailing models in this area of work is the client-artist relationship. As Griff (1960) and Becker (1982) point out, commercially-oriented artists define success by the standard of client approval. Newsroom artists, photographers and designers (many of whom do freelance work for clients outside of their news work) may be unwittingly embracing the norms of commercial art by perceiving reporters and editors as their clients rather than as their fellow journalists. If a visual journalist's first priority is to please the client – be the client reader, reporter or editor – then journalistic values and norms take a back seat. This is not to say that fellow word journalists would encourage manipulation – but that visual journalists' priorities would center less directly on preserving objective representation in photo images and more on doing whatever is necessary to please "clients" in short-term situations. In such situations there is the possibility that integrative norms could take over. Visual journalists and word journalists may focus mainly on accomplishing internally consistent work in an efficient manner rather than on preserving the "actuality" of the camera's viewfinder.

While interview findings suggest this normative dance plays an important role in decisions about manipulation, the survey does not provide strong evidence that the embracing of different norms impacts actual decision-making about photo manipulation. Orientation of the design director and the design staff toward journalistic norms and artistic norms were weak predictors of photo manipulation, although orientation toward art norms was a slightly stronger predictor than orientation toward journalistic norms. The negative correlation between adoption of rules against manipulation and degree of designers' journalistic norms may also be an artifact of organizational size. In smaller organizations, designers are more likely to also be editors or copy editors, who are more likely to have journalism backgrounds. Also, smaller newsrooms are less likely to have formal rules than in larger more bureaucratic newsrooms. Thus in newsrooms where designers have higher journalistic orientation, there is also less likely to be formal rules against photo manipulation.

Organizational structural factors seem to play an important role. In particular, size and complexity of organizations seemed to be especially important, while measures of organizational constraints (page load. difficulty of pagination system, the spread of technological proficiency) were less important. It was interesting that larger organizations tended to have more rules, but that larger organizations also tended to have more ethical breaches in photo manipulation. While differences in professional sophistication may have played a role in these results, none of these papers were very small – they ranged from 50,000 up – and so it should be expected that perceptions of what constitutes unethical manipulation would have been fairly stable. The more likely culprits are the sheer volume of images in very large newspapers, which increases likelihood of manipulation, and the complexity of communication within the organization and among subgroups in very large newsrooms.

The positive relationship between organizational size and photo manipulation (despite the presence of rules) may be interpreted another way – a way that is more consistent with interview findings. As organizations grow in size, they become more complex, and labor becomes more greatly differentiated (Blau, 1970; Hall, 1999). This should lead to a greater multiplicity of subgroups and a greater variety of normative influences. This multiplicity may increase the likelihood of unethical manipulation (as defined by the dominant journalistic culture).

The finding that the presence of rules governing manipulation correlates highly with the presence of manipulation is also interesting. This finding may simply result from the possible two-year time lag in the measure of photo manipulation. Rules may have been put in place because of manipulation. However, the existence of rules may also indicate an environment of weak journalistic norms, or strong integrative or art norms. It is true that the measures of journalistic and art norms in this study did not correlate with evidence of photo manipulation, but perhaps these are not the best way to measure a newsroom's normative environment. The presence of newsroom rules are more likely to reflect an overall normative environment, while the measures employed in this study only address designers (who are however, a key component in the photo manipulation process). Future studies that employ a similar framework should incorporate newsroom observation into the methodology in order to obtain a more complete picture of the newsroom's normative environment.

The study of subgroups, subcultures and normative conflict has not been fully explored in the mass communication literature, but it appears to be an increasingly relevant framework. The advent of online journalism, for example, has introduced a perceived invasion of "techies" into newsrooms. What values and norms have these online workers brought with them and how might this introduction of new norms and values be affecting newsroom culture and therefore decision making on a daily basis? Another example is an old one. A common newsroom joke is that every reporter has an unfinished novel hidden away in a desk drawer. Do the creative yearnings of reporters and editors have an impact on newsroom culture – one which perhaps undermines the dominant culture of objectivity and accuracy? But the perspective on these questions need not always have an ethical frame. It would be profitable if researchers occasionally focused less on warning about and beating down rival subcultures, and instead paid some attention to their empirical significance.

In sum it is clear that normative conflict in the newsroom exists, and it appears likely that such conflict and its consequences grow as news organizations grow in size and complexity. This study suggests that the decision to manipulate a photo – or to violate any other norms – is not merely a case of some individual, or group of individuals, making an error in judgment. As Perrow (1986) says, organizations are not entirely rational or one-dimensional. They are tools and the people who work in them continually seek to define their goals. Some value aesthetic quality, some value objective representation, while others value efficiency and fit. Most value all three in varying degrees, and most seek to identify with whichever set of norms appears to be dominant. This normative conflict takes place within an organizational structure, and this structure (for example, its size and constraints) has an important impact on the effect of occupational norms and values. It seems clear that newsroom decision-making lies at the intersection of occupation and organization.

Table 1: Variable measures

Criterion variables	**Measures**
Unethical photo manipulation	In the last two years have any news photos been digitally altered in your newsroom that were viewed in your newsroom as unethical or unauthorized?
Rules governing photo manipulation	Are there any formal written rules in your newsroom that govern the digital manipulation of photos?
Predictor variables	**Measures**
Strength of orientation by design subgroup toward journalistic professional norms	Degree to which organization tries to hire designers with journalism backgrounds Degree to which design director thinks designers should have a journalism background Percent of designers in subgroup with journalism educations Design director affiliation with journalism professional organizations Extent to which designers read the stories they lay out
Strength of orientation by design subgroup toward art professional norms	Degree to which organization tries to hire designers with art backgrounds Degree to which design director thinks designers should have an art background Percent of designers in subgroup with art educations Design director affiliation with professional graphic art organizations
Degree of design subgroup competency with photo imaging software	How many designers are proficient with photo imaging software
Level of organizational time constraints on design subgroup	Pagination difficulty: How difficult is the pagination system to use for designers Page load: Number of pages to design per designer Do designers receive material in time to perform work effectively
Organizational size	Circulation of newspaper
Degree of recent success reaching readers	Reader penetration rates from 1994 and 1998 averaged

Table 2: Journalistic norms and photo manipulation

	Degree of design staff professional orientation toward journalism		
(N=210)	Low	Medium	High
2= Yes a news photo has been digitally altered in an unethical way	25.3%	34.9%	28.6%
1= No, a news photo has not been altered in an unethical way	74.7%	65.1%	73.6%
Gamma = .020 Pearson's r = .036			

Table 3: Journalistic norms and rules governing manipulation

	Degree of design staff professional orientation toward journalism		
(N=209)	Low	Medium	High
2= Yes, there are formal rules in the newsroom about digitally altering photos	49.3%	45.3%	32.9%
1= No, there are not formal rules in the newsroom about digitally altering photos	50.7%	54.7%	67.1%
Gamma = -.225 Pearson's r = -.204			

Table 4: Art norms and photo manipulation

	Degree of design staff professional orientation toward art		
(N=214)	Low	Medium	High
2= Yes a news photo has been digitally altered in an unethical way	29.2%	15.9%	37.0%
1= No, a news photo has not been altered in an unethical way	70.8%	84.1%	63.0%
Gamma = .131 Pearson's r = .092			

Table 5: Art norms and rules governing manipulation

	Degree of design staff professional orientation toward art		
(N=213)	Low	Medium	High
2 = Yes, there are formal rules in the newsroom about digitally altering photos	46.5%	49.3%	38.4%
1 = No, there are not formal rules in the newsroom about digitally altering photos	53.5%	50.7%	61.6%
Gamma = -.111 Pearson's r = -.085			

A Longitudinal Analysis of
Network News Editing Strategies from 1969 through 1997

Abstract

Four editing variables were tracked through a content analysis that spanned two 14-year periods. The analysis revealed that synthetic-montage increased and continuity-realism decreased across both periods, as network news editors embraced shorter sound bites, more special effects, and an increasing use of montage-edited footage. Quicker overall cutting rates and the use of more asynchronous sound increased from 1969 through 1983, but appeared to level off over the next 14-year period. When taken together, the results suggest that television journalism has evolved from more "camera of record" news techniques in favor of more thematically complex editing strategies.

by

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Introduction

Many industrial designers and commercial artists have long maintained that "form follows function." They have argued that the uses of a well-designed product should shape its formal characteristics, and that its formal characteristics, in-turn, should facilitate its functioning. Such a function-dictates-form perspective has also been embraced by linguists studying the syntax, as well as the specific vocabularies, of spoken and written languages. When this perspective is brought to bear on journalistic production, two key questions arise. First, what are the formal characteristics of the various mass-appeal journalism products? And second, given that those formal characteristics are likely to have evolved over time, what do the different iterations tell us about the changing functions of the journalistic products themselves?

This analysis addresses the first question by providing a formal framework, as well as an empirical analysis that adds to our understanding of a particular journalistic form -- the pre-shot and edited television news story. The study describes the formal changes in a sample of previously shot and edited footage that aired on U.S. network television in 1969, 1983, and 1997. As such, it provides a post hoc analysis of certain heuristic theories and creates an empirical basis for further speculating about the changing uses and functions that edited news stories may have exhibited from 1969 through 1997.

Longitudinal Study of News Forms

There is a long tradition of heuristic analyses of the formal structures of journalism in the United States. In their early ethnographic studies Robert Park (1922), and his student, Helen Hughes (1940), examined the functionalist aspects of immigrant newspaper techniques, along with sensational contents in general circulation newspapers. Considerably later, Tuchman (1972, 1978) used ethnographic methodologies to analyze journalistic forms within the context of organizational and professional routines. Schudson (1978) put those routines in a historic context that continues to drive the most common forms of contemporary print journalism. Epstein (1973) used similar techniques to critically examine the objective practices and styles of U.S. television networks, whereas Glasser and Ettema (1989) relied on an exemplar case-study approach to describe and critique the formulaic characteristics of investigative reports aired in network news-magazine programs.

More recently, Patterson (1993) has turned to longitudinal content analyses to support claims that political coverage in the 1980s and early 1990s had become increasingly negative and journalist-centered -- a trend which elevated journalistic perspectives over those of newsmakers and other news sources. Barnhurst and Mutz (1997) used similar longitudinal techniques to show that 20th century newspaper coverage had become increasingly less "event centered." They noted that the newspaper reports evolved over time toward longer, more analytical pieces that provided historical insight as well as details about the present.

Thus, there appeared to be some empirical support for the assertion that objective newspaper accounts had become less event-centered and more issue-oriented or interpretive by the end of the 20th century.

The televised political sound bite also received a great deal of research attention in the 1990s. Adatto (1990), Hallin (1991), Smith (1989), and Steele and Barnhurst (1995) combined longitudinal methodologies with content analysis to study this unique broadcast form. The researchers generally saw significant differences between the editing strategies of previous decades and those used in coverage of late-20th century campaigns. Adatto (1990, p. 20) reported that presidential candidate sound bites decreased from more than a half-minute to approximately 10 seconds in the two decades prior to 1988. The sound bite researchers maintained that journalists increasingly tended to slice sound bites into small pieces that could be woven into tight, coherent reports -- reports that tended to privilege the ideas of the journalists over those of the news subjects.

Edited Actuality Realism and Synthetic Montage

Whereas studies of sound bite lengths were relatively abundant in the 1990s, more nuanced analyses of editing techniques were far rarer. Schaefer (1997) combined a documentary case-study approach with a quantitative content analysis of editing strategies. He applied these techniques to examine four editorially-pointed CBS documentaries that premiered from 1954 through 1982.

Schaefer based his inferential analysis on a quantitative study of four editing variables: shot length averages as measured in seconds, the presence of straight cuts or specials effects; a continuity/montage dichotomy for the edited visual track, and the synchronicity of the primary audio and the visual track. Borrowing terminology from Zettl (1990) and professional journalists, Schaefer noted whether or not the primary sound was synchronous -- apparently recorded with the accompanying visual image at the scene -- or asynchronous -- apparently recorded elsewhere and combined with the visual only in the editing process.

Schaefer theoretically grounded his dichotomous continuity/montage variable in Peirce's (1940) semiotic theory of icons and indexes, as well as understandings of continuity-based realism articulated by film theorists, like Bazin (1967, 1971) and Kracauer (1960). These "realist" film theorists posited that continuity shooting and editing techniques support realism by enabling filmmakers to compress time and portray seemingly natural spatial relationships within a scene. Continuity editing enables viewers to follow the shots in a sequence as if a scene were unfolding before their eyes, rather than having viewers dwell on the sequence's deliberate and synthetic construction, or even the abstract nature of its themes.

Drawing on Peirce's semiotics, Schaefer (1997) maintained that film and other photo-like imagery was iconic because the visual elements of the image so closely resembled those observed in visual perception. Such imagery, particularly when used by journalists, could also be taken as a marker or index of a real event in a real location. When journalists applied continuity editing techniques to carefully crafted iconic and indexical imagery, an edited sequence could be interpreted as a "camera of record" portrayal of an event.

On the other hand, by juxtaposing authentic images or film clips in an edited sequence, journalists could also construct a predominantly thematic visual argument even though it was made up of very detailed icons. The interpretation of the imagery would rely primarily on what Peirce (1940) described as the symbolic qualities of the image rather than its indexical qualities.

Arnheim (1967) wrote that the Russian formalists of the 1920s and 1930s explored the discursive possibilities of symbolic montage techniques. Pudovkin (1960) and Eisenstein (1949) aligned their seminal notions of montage with the dialectics of Hegel and Marx by describing each edit as a dialectical process -- a collision of shots with disparate or even contradictory meanings. These individual shots, each with their own thesis or significance, united through the edited transition to produce new meanings -- a synthesis of the two images.

Thus, Russian formalist montage techniques invite moviegoers to participate in an intellectual, as well as a perceptual, process. The intellectual interpretive process encourages viewers to abstract the film's themes and symbolic message through its far more palpable imagery. This modernist viewing impulse is similar to developing historical consciousness from the raw events of daily life. The viewer's intellect collaborates with the filmmaker's formal crafting to produce the film's ideologically-loaded thematic messages.

Postmodern theorists have extrapolated on these formalist notions to describe a more self-conscious frame of production and interpretation. Ulmer (1983) and Deleuze (1989) characterized this unnatural, self-conscious fragmentation and rearrangement of audio-visual imagery as an indicator of a new postmodern collage/montage aesthetic. By combining very disparate images in novel ways, viewers were forced to consciously develop novel sense-making frames for the imagery. Although this postmodern aesthetic may lie outside the commonly used vocabularies and job descriptions of all but the most intellectually-driven broadcast journalists, evidence of increasing use of synthetic montage editing could also signal that these more symbolic and self-conscious discursive strategies have begun to be embraced by television news workers.

Schaefer (1997) maintained that tracking specific variables could detect the presence of realist and formalist patterns, and thereby shed light upon the producers' discursive strategies.

> . . . the structuring of materials through editing can significantly influence the "contents" and meaning of the reports. Continuity editing techniques, along with the use of synchronous sounds, help journalists to emphasize the correspondence of authentic images to real, concrete events. Such readings coincide with a classic realist frame of interpretation. On the other hand, montage techniques, along with the use of asynchronous audio tracks, suggest that the medium has been crafted symbolically to convey an abstract audio-visual message. This more discursive use of the medium draws upon both traditional dialectical and more avant-garde postmodern representational strategies. The presence of such symbolic strategies suggests that broadcast journalism can be far more than a simple "window on the world." Their use reflects the extent to which television journalists overtly construct complex arguments. (Schaefer, 1997, p. 76)

Schaefer (1997) trained his assertions about editing toward an analysis of four seminal documentaries. Across the documentaries, he found a general trend away from realist continuity editing techniques, toward greater use of montage techniques. Schaefer maintained that this enabled the documentary producers to move away from presenting depictions of scenes and events, to communicating complex sociological processes. Furthermore, journalistic realism itself had become problematic, as a few continuity sequences drew criticism for misrepresenting the very events that they seemingly depicted. In contrast, the montage sequences did not attract similar criticism.

Schaefer (1997) has also noted that television journalists have traditionally learned the art of editing through an immersion process that does not readily lend itself to conscious articulation of forms. As a result, he maintained that even the most astute news editors employ a fairly limited and idiosyncratic vocabulary when discussing their craft. Hence, it should not be too surprising that longitudinal trends in journalistic editing styles have only received scant anecdotal consideration either by researchers or working professionals.

The current study attempts for address that dearth of understanding by tracking the changes in network news editing strategies across two 14-year intervals that started in 1969 and ended in 1997.

Methodology and Hypotheses

This study drew upon a purposive sample of newscasts in 1969, 1983, and 1997 to examine changes in network editing techniques.

The dates for the in-tab ABC, CBS, and NBC broadcasts were consciously chosen to avoid ratings sweeps periods and days on which the news could have been dominated by a single major story. Once such a typical news date was found, then a copy of the broadcast was requested for each of the three commercial networks. Finding dates on which newscasts were available was also a problem, but eventually weeknight news programs from each of the networks were obtained for the third Tuesday in June (June 17, 1969; June 21, 1983; and June 17, 1997). These dates spanned 28 years, which allowed for tracking major shifts in editing techniques and strategies across two 14-year periods.

The nine programs' news actualities and news-oriented graphics were coded on a shot-by-shot basis, following the techniques used by Schaefer (1997). The content analysis excluded ornamental graphics, such as a newscast open and teases, which were not intended to convey news information. Live shots were also excluded from this analysis, because the live shots were not considered "pre-edited" material. Hence, within the carefully selected convenience sample of nine programs from the three time periods, 1,357 shots eventually fit the criteria as news actualities or full-screen news graphics.

The following four measurements, when analyzed in differing combinations, provide insights into the prevalence of realist and montage editing strategies within this longitudinal.

1. Shot length: The duration in seconds and tenths-of-seconds of each visual image. This variable indicates cutting rate, or how many visual edits were made per minute. High cutting

rates suggest more overtly artificial and fragmented editing strategies, whereas very low cutting rates suggest a less fragmented "camera of record" approach to representation.

2. Transition type: Whether visual transitions utilized straight cut edits or more elaborate special effects, such as dissolves or fades, wipes, and digital video effects (DVE). Frequent use of special effects would typically convey a sense of artificiality and reduce the sense of classic continuity realism.

3. Style of edit: Whether the visual edit was a continuity edit or a montage edit. Transitions between shots recorded at a single site and lacking any overt breaks in the action were characterized as continuity edits. Continuity edits presumably reinforced realism, whereas montage edits presumably reinforced traditional formalist or avant-garde symbolic understandings. If a transition could have been characterized as being both a continuity and montage edit, it was coded only as a continuity technique because its use in the continuity sequence presumably fostered a more iconic and indexical realistic interpretation of the scene. This coding strategy also replicated the approach adopted by Schaefer (1997).

Fifty-six of the edits (4.1% of the 1,357 shot changes) apparently lacked any visual logic or were preceded by a shot that provided no editorial information, such as when the prior shot was a black or gray matte. These edits with no apparent visual logic were counted as "missing" in the editing analysis. Thus, only 1,301 edits were included in the analysis.[1]

4. Audio-visual synchronization: Whether or not the primary audio track was edited with synch sound that appeared to have been recorded with the visual image. Synchronized sound reinforces realistic interpretation. In contrast, sounds that appeared not to have been recorded on location, and were presumably attached to the image only during the editing process, were categorized as asynchronous. The presence of overlaid asynchronous sounds, such as narration or music, should signal a more artificial and symbolically complex editing strategy. Synch sound in the background was not coded -- only the primary sound was included in this analysis.

Copies of the original broadcasts were time coded, and reviewed on television monitors so each shot and transition could be coded. This investigation was not designed to reveal differences between the ABC, CBS, and NBC evening newscasts. Instead, the current study examined the techniques that were evident across the three aggregated newscasts over each of two 14-year time periods. Hence, six hypotheses were developed as tests of formal characteristics evident from 1969 through 1983 and from 1983 through 1997. Therefore, the test of each hypothesis could produce results across one or both of those 14-year periods.

H1: Shot lengths would decline from 1969 through 1997.

H2: Sound bites shot lengths would decline from 1969 through 1997.

H3: Continuity editing would decline and montage editing would increase from 1969 through 1997.

H4: The use of straight cuts would decline and special effects transitions would increase from 1969 through 1997.

H5: The relative amounts of continuity footage would decline and montage footage would increase from 1969 through 1997.

H6: The relative amounts of synchronous primary audio would decline and asynchronous audio would increase from 1969 through 1997.

H1 and H2 together support prior research and speculations on pacing and sound bite usage, as well as increasing fragmentation and control by journalists. Thus, support for H1 and H2 would buttress earlier assertions that the pacing or cutting rate of actuality imagery has increased -- a trend which also supports contentions that journalists had turned to smaller actuality snippets to construct more overtly synthetic and journalist-centered stories.

H3, H4, H5, and H6 together test Schaefer's (1997) case-study derived speculations regarding the ascendancy of synthetic montage and the decline of continuity realism as a journalistic strategy.

Findings

Table 1 presents some descriptive statistics and the results of an analysis of variance (ANOVA) for the pre-edited actualities and news graphics from the three different years. Therefore, it addresses the following hypothesis:

H1: Shot lengths declined during one or more of the 14-year time periods.

The median shot length figures in Table 1 represent better indicators of shot length than the means, because the means are inordinately influenced by a few "outlier" values from the longest shots. The table shows a major decline in shot length between 1969 and 1983 and a relatively constant shot length between 1983 and 1997. It should also be noted that the last column indicates that the longest pre-edited shots declined from over a minute (64.1 seconds) in 1969 to under a half-minute (26.3 seconds) by 1997.

Table 1: Shot Lengths by Year for Pre-Edited Footage*

Year	Median (sec.)	Mean (sec.)	N Shots	Standard Deviation	Kurtosis/ Standard Error of Kurtosis	Range: Min to Max (sec.)
1969	5.3	9.3	268	11.4	29.9	.4 to 64.1
1983	3.9	5.2	615	4.3	36.7	.5 to 31.9
1997	3.8	5.3	474	4.3	23.5	.7 to 26.3
All 3 Years	4.1	6.1	1357	6.5		.4 to 64.1

* Pre-edited footage includes previously-recorded actuality imagery as well as full-screen graphics that contain news information. But pre-edited footage does not include opens and pre-edited video from tease and non-news graphic imagery. An ANOVA between year groupings (F=43.8, p=.000) and Tukey HSD tests indicated significant differences (p=.000) between 1969 and the two latter groups (1983 and 1997). But the Tukey Honestly Significant Difference (HSD) test did not reveal differences at the p=.05 level between 1983 and 1997, which were grouped by the Tukey HSD test into a "homogeneous subset." Furthermore, the kurtosis ratios indicate that the shot lengths for the three years do not follow a normal distribution, which is marked by a kurtosis ratio between -2 and 2 (SPSS, 1999, pp. 25-28, 126-130).

An ANOVA of the mean shot lengths across each time period showed significant differences from 1969 through 1983. In spite of the high F-value and the level of significance, the statistical validity of this interpretation is not as strong as that offered by a more common-sense analysis because the basic ANOVA conditions were not met. Indeed, the differences between the median and mean values, along with the great standard deviations and kurtosis ratios suggest that the shot length distributions are not distributed "normally." Obviously, the distributions were positively skewed, since the minimum shot lengths were limited to .1 seconds, and therefore were much closer to the means and medians than were those of the longest edited shots, which tended to be approximately a minute and half-minute. In this sense, the long sound bites acted like outliers that skewed the distributions and their averages. The kurtosis measure divided by its own standard error further suggests that there was a long flat tail to the right of each year's skewed distribution.

Nevertheless, the Tukey HSD test values listed beneath Table 1 back up a non-linear interpretation of the data. Whereas the medians suggest that shot lengths declined across the 28 years, the Tukey HSD test found only a single major decline occurring between 1969 and 1983. Indeed, the means, medians, range and standard deviations were extremely similar for 1983 and 1997, despite the absence of normal distributions. Thus, shot lengths declined and cutting rate dramatically increased for pre-edited footage during the 1969 through 1983 period, and then leveled off over the next 14 years.

Thus, the data provide support for H1 from 1969 through 1983, but not from 1983 through the 1997.

Table 2 is similar to Table 1, except that Table 2 deals only with the 232 of the 1,357 shots that were coded as "sound bites." Therefore, the data in Table 2 address the following hypothesis:

> **H2: Sound bites shot lengths declined from 1969 through 1997.**

The findings tend to reinforce the assertions of earlier sound bite researchers who maintained that sound bites became shorter over time. In fact, the 7.5-second median sound bite length in 1983 was only about one-fourth as long as the 28.9-second median bite from 14 years earlier. Furthermore, the median sound bite length had declined another 25.3% by 1997 (5.6-second median bite length).

Table 2: Shot Lengths by Year for Pre-Edited Sound Bites*

Year	Median Shot Length (sec.)	Mean Shot Length (sec.)	N Shots	Standard Deviation (sec.)	Kurtosis/ Standard Error of Kurtosis	Range: Min to Max (sec.)
1969	28.9	27.3	37	18.3	-1.2	2.8 to 62.9
1983	7.5	7.8	92	4.5	.9	1.1 to 21.1
1997	5.6	6.0	103	3.7	3.3	1.1 to 20.0
All 3 years	7.0	10.1	232	6.5		1.1 to 62.9

* Pre-edited sound bites include previously-recorded actuality imagery or full-screen graphics that were accompanied by audio sound bites from non-news personnel. An ANOVA between year groupings (F=98.1, p=.000) and Tukey HSD tests indicated significant differences (p=.000) between both time periods. But the Tukey test did not reveal differences at the p=.05 level between 1983 and 1997, which were therefore grouped into a "homogeneous subset." Furthermore, the kurtosis ratios indicate that the shot lengths for 1997 narrowly missed forming a normal distribution curve, which requires a kurtosis ratio between -2 and 2 (SPSS, 1999, pp. 25-28, 126-130).

Although there were only 37 separate sound bites in the three 1969 newscasts, those sound bites provided considerably more opportunity for interviewees or speakers to state their uninterrupted opinions than did the far more frequent number of sound bites found in 1983 and 1997. The 37 sound bite shots from 1969 provided 1,010 seconds, versus 718 seconds provided in the 92 sound bites from 1983, and 618 seconds in the 103 sound bite shots from 1997. Thus, given that all the programs were half-hour newscasts, not only were speakers afforded more time to speak, but their sound bites lasted significantly longer in 1969 than in the other years.

Similar to Table 1, the Kurtosis ratios reported in Table 2 failed to indicate the presence of normal distribution curves across the three time periods, which is a prerequisite for developing confidence in an ANOVA. However, this time the 1969 and 1983 Kurtosis figures met the normal distribution parameters, whereas the 1993 Kurtosis ratio of 3.3 narrowly missed the desired -2 to 2 normal distribution interval. Thus, the unmistakable declines between the median, mean, and maximum sound bite times between 1969 and 1983 were clearly supported by the ANOVA and Tukey HSD tests. Whereas those statistical tests pointed toward, but did not fully support, the more subtle decline in sound bite lengths between 1983 and 1997.

Yet, the total sound bite times (1,010 seconds in 1969; 718 seconds in 1983; and 618 seconds in 1997) further corroborate the declining 28-year trend evident in the median and mean sound bite shot lengths of Table 2. Thus, in this case it appears that the violation of the statistical assumptions does not negate the clearly ordered trends across the data.

With regard to Table 2, it should also be noted that in 1983, and even more so in 1997, a number of the coded shots contained a combination of both narration and sound bite. Yet, each of these shots was coded as either entirely narration or entirely a sound bite, depending on which occupied the most time within the visual shot. This coding quirk likely resulted in over-stating the mean and median sound bite times for 1983 and 1997. Thus, if anything, the trend indicated in Table 2 is likely to slightly under-report the declining lengths of network sound bites over time. Hence, the data support H2 across both time periods.

Table 3 shows the frequency and percentage of montage and continuity edits in the three time-periods. This variable was coded as an exclusive dichotomy, with jump cuts, matched edits, and edits that had both continuity and montage qualities coded as continuity edits. Such an interpretation implies that both incompetent continuity and the most carefully constructed continuity-montages were both treated as reinforcing a realistic frame of interpretation. Although the first shot in an actuality or full-screen graphic sequence was typically coded as having "no apparent logic" or "missing," some first shots were coded as montage edits if the anchor's introduction set up viewers for the first shot of a story or if graphics that accompanied the anchor's introduction served to thematically introduce the first shot in the story. This coding scheme also replicated the one used by Schaefer (1997). Thus, the figures in Table 3 address the following hypothesis:

H3: Continuity editing declined and montage editing increased across one or more time periods.

Table 3: Continuity or Montage Style of Edit by Year*

	1969 Frequency, Percentage	1983 Frequency, Percentage	1997 Frequency, Percentage	Three-Year Frequency, Percentage
Continuity edit	169 69.8%	352 59.0%	134 29.0%	655 50.3%
Montage edit	73 30.2%	245 41.0%	328 71.0%	646 49.7%

* Only actuality and information-oriented graphic transitions were tabulated, and 56 edits that were coded as either "no apparent logic" or "not applicable" were counted as missing data. Pearson Chi-Square=138.7, *p*=.000, N=1,301.

The continuity edit percentages in Table 3 suggest that continuity-based realistic strategies declined significantly between 1969 and 1983, then declined far more precipitously between 1983 and 1997. Thus, H3 was supported across both time periods.

Table 4 shows whether the pre-edited footage transitions were straight cuts or special effects, which included dissolves, fades, wipes, or digital video effects (DVE). The percentage figures toward the bottom of each cell also show the ratio of continuity and montage edits for each type of transition.

The data in Table 4 address the following hypothesis:

H4: The use of straight cuts declined and special effects transitions increased across one or more time periods.

Table 4: Transition Types by Year with Continuity/Montage Pcts.*

Transition Type Edit Style	1969 Freq 1969 Pct. Pct. Pct.	1983 Freq 1983 Pct. Pct. Pct.	1997 Freq 1997 Pct. Pct. Pct.	3-Year Freq 3-Year Pct. Pct. Pct.
Straight cut Freq.	228	537	316	1,081
Straight cut Pct.	94.2%	89.9%	68.4%	83.1%
Continuity	72.4%	62.8%	41.1%	58.5%
Montage	27.6%	31.2%	58.9%	41.5%
Sp. Effect** Freq.	14	60	146	220
Sp. Effect** Pct.	5.8%	11.1%	31.6%	16.9%
Continuity	28.6%	25.0%	2.7%	10.5%
Montage	71.4%	75.0%	97.3%	89.5%

*Only the transitions preceding actuality footage and news information-oriented graphics were tabulated. The transition types by year showed a Pearson Chi-Square=112.3, *p*=.000, N=1,301.

**Effects included dissolves, fades, wipes and digital video effects (DVE).

At first glance Table 4 might appear confusing, but the top figures in each cell are simply the straight cut and special effects transition variable cross-tabulated by year. Those top figures show that the rate of special effects use increased from 5.8% in 1969 to 11.1% in 1983, to 31.6% of actuality edits by 1997. The Pearson Chi-Square test showed that this trend would not have occurred by chance. Therefore, the data support H4 across both 14-year time periods.

Film theory suggests that straight cuts can reinforce continuity realism, whereas the use of transitional special effects tends to reinforce the artificial, or synthetic, nature of film language. A number of special effects transitions were evident in the pre-edited footage, but the overwhelming majority of the effects (85.0%) were dissolves, which are sometimes also called "mixes" by video editors. The standard wipe peaked in popularity in 1983 with 2.9% of content-oriented actually edits, versus 1.1% in 1997 and 0% in 1969. Not surprisingly, more elaborate digital or DVE-type effects were far more common in 1997 (1.7% of edits) than they had been in earlier years (.5% in 1983 and 0% in 1969). This is likely a product of technology, as more digital editing equipment became available for network news workers.

The percentage figures toward the bottom of each cell in Table 4 also reveal an interesting trend with regard to the conventional use of special effects transitions. The rate in which special effects transitions were used in continuity sequences declined from 28.6% and 25.0% in 1969 and 1983 respectively, to a mere 2.7% in 1997. Thus, by 1997 special effects transitions had come to be used almost exclusively as a montage technique. In contrast, the straight cut went from being predominantly a continuity technique in 1969 (72.4% of all straight cuts were continuity edits) to being an unreliable predictor of continuity by 1997, when only 41.1% of all straight cuts were continuity edited. This trend might have been anticipated with the increased use of montage editing, but it was never formally hypothesized as part of the post-hoc analysis.

On the following page, Table 5 shows a breakdown of the amount of air-time in each time period that was dedicated to continuity- and montage-edited footage. If an edit at the start of a shot, was coded as a continuity edit, then the length of that shot in seconds was added to the overall summed continuity-edited time for that year. The second column from the right in Table 5 provides the percentages of the continuity- and montage-edited footage within each time period -- a statistic that better expresses how much the journalists' from each period relied on continuity and montage techniques. Hence, Table 5 addresses the following hypothesis:

H5: The relative amounts of continuity footage declined and montage footage increased from 1969 through 1997.

A simple comparison of the percentages of continuity- and montage-edited footage from each of the time periods provides dramatic evidence that continuity-edited footage declined and montage-edited footage increased across both of the 14-year time periods. In fact, only slightly more than a third (38.5%) of the 1996 footage used montage editing, whereas nearly half (49.8%) of the 1983 pre-edited footage and fully four-fifths (80.9%) of the

1997 footage relied on montage techniques. Thus, H5 was unequivocally supported across both 14-year periods.

Table 5: Continuity and Montage Shot Lengths Statistics by Year for the Pre-Edited Footage*

Year and Edit Style	Median Shot Length (sec.)	Mean Shot Length (sec.)	N Shots	Summed Time by Edit Style (sec.)	Percent of Pre-Edited Footage Time	Range: Min to Max (sec.)
1969						
Continuity	4.5	8.0	169	1,355.6	61.5%	.4 to 60.9
Montage	6.0	11.6	73	847.0	38.5%	1.6 to 62.9
1983						
Continuity	3.3	4.3	352	1,530.0	50.2%	.5 to 26.5
Montage	4.6	6.2	245	1,516.8	49.8%	.8 to 26.7
1997						
Continuity	2.8	3.5	134	464.8	19.1%	.9 to 13.5
Montage	4.6	6.0	328	1,965.2	80.9%	.7 to 26.2
All 3 years						
Continuity	3.5	5.1	655	3,349.4	43.6%	.4 to 60.9
Montage	4.8	11.6	646	4,329.0	56.4%	.7 to 62.9

*Pre-edited footage includes previously-recorded actuality imagery as well as full-screen graphics that contain news information. But pre-edited footage does not include opens, pre-edited video from tease and non-news graphic imagery. An ANOVA for edit style grouping indicated significant differences ($F=42.8$ and $p=.000$) between the shot lengths for the three time periods. However, kurtosis ratios indicated that the shots lengths in each of the time periods did not replicate a normal distribution, which is generally considered to be a pre-requisite for the ANOVA analysis. (ANOVA typically requires a kurtosis ratio between -2 and 2). The statistics are reported here despite the lack of a normal distributions because the face validity and utility of the mean shot lengths appear to be strongly supported by median shot lengths and ranges of the variable subgroups, as well as the summed times and percentages of pre-edit footage contained in the table.

Table 5 also reveals a surprising finding that was not conceptualized as part of the planned post-hoc analysis. Indeed, if a hypothesis had it been offered, it would have predicted exactly the opposite effect as that indicated by the data.

Browne (1997, p. 288) and many professional editors would describe montage editing as a type of quick-paced editing that is primarily ornamental and often accompanied by music. Yet, note that for all the mean and median shot lengths in Table 5, continuity-edited shots tended to be shorter in duration than their montage-edited counterparts. This finding suggests that even when realistic scenes were constructed, they were increasingly constructed with shorter pieces of footage, which may have fostered a sense of faster pacing. Thus, when continuity realism was used, it generally required more shots and a quicker cutting rate than it had in earlier periods.

Surprisingly, the shots used in montage sequences tended to be a little longer than those used in continuity sequences. This suggests that the news workers created montage sequences that relied on longer shots to construct an intellectual type of montage -- one that was more closely tied to Russian formalist principles than to rhythmic ornamentation.

Table 6 shows frequencies and the percentage footage figures for shots that had either synchronous or asynchronous primary audio. Primary audio is the loudest audio attached to a shot, and it is also the audio that editors want viewers to notice and remember. Narration is an example of primary audio, as are the words of a person who provides a sound bite. Shots can have background audio, which could be the natural sounds recorded at the scene of the video shot, or music playing underneath narration or a sound bite. The key is that the primary audio track is made to stand out and be noticed, whereas the background tracks are usually softer and secondary to the primary track.

Based on this understanding of audio, Table 6 addresses the following hypothesis:

H6: The relative amounts of synchronous primary audio declined and asynchronous audio increased across one or more time periods.

Table 6: Synchronous and Asynchronous Primary Audio Frequencies and Footage Time Sums by Year*

Year and Audio Style	Frequency of Shots	Percentage of Shots	Summed Time (sec.)	Percent of Pre-Edited Footage Time
1969				
Synchronous	57	21.3%	1,354.8	54.3%
Asynchronous	211	78.7%	1,141.1	45.7%
1983				
Synchronous	126	20.5%	1,095.4	34.1%
Asynchronous	489	79.5%	2,119.6	65.9%
1997				
Synchronous	120	25.3%	918.8	36.5%
Asynchronous	354	74.7%	1,601.3	63.5%
All Three Years				
Synchronous	303	22.3%	3,369.0	40.9%
Asynchronous	1,054	77.7%	4,861.9	59.1%

* Pre-edited footage includes previously-recorded actuality imagery as well as full-screen graphics that contain news information. But pre-edited footage does not include opens, pre-edited video from tease and non-news graphic imagery. Shots that had no audio were coded as "asynchronous." The Pearson Chi-Square (3.8) for shots with synchronous and asynchronous audio was not significant (p=.148). N=1,357.

The frequency and percentage of shots across the three time periods revealed no significant differences. In fact, a spot check of the synchronous sound percentages by shot show that all three time periods were within 3 percentage points of the 22.3% overall percentage across the three periods. Hence, the Pearson

Chi-Square test failed to detect significant differences between the cell frequencies.

But a far different picture emerged when percentages of footage were calculated. The far-right column in Table 6 shows that the overall percentage of asynchronous pre-edited footage increased from less than half (45.7%) in 1969, to almost two-thirds (65.9%) by 1983. In the second 14-year period the ratio appeared to remain approximately the same (63.5%) in 1997 as it had been in 1983 (65.9%). Thus, the data provide support for H6 from 1969 through 1983, but not for the second 14-year time period.

Further Analysis and Discussion

When taken together, the tests results for H3, H4, and H5 appear to support Schaefer's (1997) contentions about the ascendancy of synthetic montage and the decline of continuity realism as a discursive strategy for pre-edited journalistic footage. Across both 14-year time periods, journalists more frequently turned to special effects and montage-edited footage. The H6 results suggest that this trend toward synthetic montage was accompanied by an increasing reliance on asynchronous primary audio between 1969 and 1983 -- a trend which apparently leveled off between 1983 and 1997.

The H1 and H2 data suggest that sound bites became shorter across each of the two 14-year periods, but the shot lengths of pre-edited footage only declined from 1969 through 1983.

Thus, a complex pattern emerges in which a more synthetic and thematically-oriented news editing style became increasingly popular between 1969 and 1997. Sound bite length declined over the 28 years, but overall pre-edited shot lengths and pacing only increased from 1969 though 1983.

Sound bite length decreased across both 14-year periods, continuing a trend which was first documented by researchers studying political sound bites. The sound bite was just one type of actuality that experienced greater cutting rates in the years leading up to 1983. Network news editors appeared to have increased the overall cutting rate of all types of pre-edited news footage from 1969 through 1983, when the quickly-paced straight cut seems to have reached its saturation point. The decline of the continuity-straight cut and the rise of special-effects laden montages serves to reinforce traditional film theorists' understanding of how special effects can be used to convey changes in scene and time.

Advances in technology could also explain the increased use of special effects across the two 14-year periods -- periods when the network news divisions moved from shooting and editing reversal film, to shooting and editing videotape, to using more digital post-production technologies that present editors with a greater array of transitional options.

Across all three longitudinal samples, continuity sequences generally appeared to have been edited with greater pacing than their montage counterparts -- a finding which was unexpected. Thus, even when journalists were using realist continuity-editing strategies, they tended to use shorter length shots than they did when they were creating synthetic montage sequences. In contrast, montage sequences had slightly slower cutting rates, which suggests that journalists are using montage for thematic, rather than ornamental purposes.

All of these findings support the contention that continuity realism and camera-of-record techniques declined over the 28-year period from 1969 through 1997. And if form indeed follows function, then it seems plausible that journalists used these synthetic and fragmenting discursive strategies to go beyond camera-of-record presentations in favor of a more complex and thematic use of actuality and graphic imagery.

Although the current content analysis does not unequivocally prove earlier assertions that journalist have increasingly adopted representational strategies that privileged their own voices over those of their news sources, the findings are commensurate with those assertions.

Furthermore, if form does follow function, then it is necessary to also ask how these changing forms affected the interpretations of the audiences who viewed network newscasts. How did the various editing techniques function at the viewer level? That very important question is certainly worthy of a concerted research effort.

Endnote

1. Jump cuts can make viewers aware that an event has been condensed through editing. Thus, they can undermine the illusion of continuity. The 10 jump cuts were coded as continuity edits, because, despite drawing attention to continuity techniques, they generally supported a realistic, or camera of record, interpretive frame.

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Digitally Altered News Photographs: How much manipulation will the public tolerate before credibility is lost?

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Abstract

Digitally Altered News Photographs: How much manipulation will the public tolerate before credibility is lost?

A quasi-experimental design was used to examine what factors influence public attitudes toward a digitally manipulated news photo, photography in general, and news media. Subjects were shown one of five versions of a photograph. Increasing levels of digital alteration caused lower credibility scores for the published photograph. Credibility of photography and the news media were influenced more by age, income, and education than treatment. Familiarity with imaging software was linked to tolerance of the alterations.

It took thousands of men more than 100 years to build the pyramids at Giza in Egypt. Yet in 1982, it took only one person a few minutes to move them. In a now infamous incident at National Geographic, a computer was used to digitally move a pyramid in a photograph used on the cover of the magazine. It was moved because the original photograph did not fit the vertical format of the cover. At the time, Geographic editors defended the alteration, saying that moving the pyramid was not any different than if the photographer had moved position to get a different angle (Kobre, 1996). But not all journalists agreed with that justification. In fact, Geographic editor Bill Allen wrote that the pyramid cover photo incident still "haunts" the magazine to this day (Allen, 1998).

In the early 1980s, computers costing millions of dollars were needed to make digital alterations such as the one performed by Geographic. At the time, only large circulation newspapers and magazines invested in the expensive technology. However, the cost of computer hardware and software has dropped drastically, allowing for such technology to be used at nearly every newspaper, magazine, and in-house publishing operation. Now cases of digitally altered news photographs proliferate, causing debates in newsrooms. For example, The Topeka Capital-Journal in March 2000 published a digitally altered photo of a dunk shot from a basketball game. This might have gone undetected if not for an alert reader who tipped the paper off to the alteration after seeing two basketballs in the picture (Romenesko, 2000). The photographer admitted that he altered the photo so the ball appeared to be going through the net, when it actually had already fallen through. The photographer resigned, and in a published note to readers Publisher John Goossen apologized for the breach of ethics, writing that representing the truth is a newspaper's responsibility to its community (Capital-Journal apologizes, 2000).

Today, just about anyone with a relatively inexpensive desktop computer can alter the content of a photograph. This technology presents a host of ethical questions that were rarely present in daily photojournalism prior to the advent of computerized photo editing. In effect, photographs can lie with greater ease than ever thought possible (Reaves, 1986). Some argue that if photographers and editors are not cautious and diligent with digital manipulation, photojournalism's credibility with the public will erode (Irby, 1996). "Should the day ever come when photographs in mainstream newspapers or magazines are greeted with doubt as to their very content or origin, something terrible will have happened to our democratic free press in the name of higher technology" (Van Riper, 1994, p. 19).

Discussion of ethical questions raised by altering photographs in news publications has been largely confined to photographers, editors, publishers, and scholars. At the heart of the discussion is photojournalism's credibility with the public. However, most formal research on digital manipulation has examined the attitudes of journalism practitioners. In contrast, this study examines those outside the journalism profession. Specifically, this study uses a quasi-experimental design to examine the effect that different levels of photo manipulation have on the public's attitudes toward the credibility of a photograph, photography in general, and the news media. Also, the study examines whether the public makes a distinction between alterations in photographs done for technical reasons only or for content reasons.

Literature Review

The Pew Research Center for The People and The Press cited lack of credibility as the most important problem facing news media today (Striking the balance, 1999). Shaw (1999) adds that public perception of news media credibility has plummeted during the past two decades or so, because rumor, gossip, scandal, and sensationalism have come to occupy more media space and time. When Editor & Publisher asked newspaper editors how they would assess "the level of popular trust and confidence in newspapers," only 11% said "high" or "very high" (Shaw, 1999). The American Society of Newspaper Editors' Journalism Credibility Project also highlights growing skepticism. Results showed that 44% of the reading public find errors in stories either daily, weekly, or several times a month (Amari, 1999).

Research suggests that public attitudes toward media credibility are affected by characteristics such as age, education, and socioeconomic status. A Freedom Forum survey (Associated Press, 1997) found that while people over age 65 believed 67% of what they read, those under 30 believed 74% (How Americans use, 1997). Another study showed that people with higher educational achievements were less trusting of the media as a whole, and those with higher socioeconomic status trust newspapers more than television (West, 1994). Other characteristics, such as race, religion, and direct knowledge of events also have been linked with the public's perception of media credibility. For instance, those who are dissatisfied with national affairs believe less of what they read than those who are satisfied (West, 1994). And 43% of readers with personal knowledge of a story find inaccuracies in it (Amari, 1999). Discussing media credibility is vital in examining photo manipulation because the practice is directly related to the public's trust in the news media. Fred Ritchin of New York University said the news media jeopardize their integrity with each doctored photo. "While readers have always accepted that text is re-written and sometimes edited with a point of view, they have relied on photographs to represent the truth" (Angelo, 1993, p. 20). Lowrey (1998) argues that altered photos undercut readers' trust even more than textual inaccuracies, because news photos convey a concrete believability that words do not. Reaves (1986) similarly suggests that when readers learn that photos are electronically altered in newspapers and magazines, credibility is lost. In a later study, Reaves (1989a) argued that the medium could lose its moral authority if society decides that photographs no longer have any connection to reality.

Overview of photo manipulation

In the early days of newspaper photography, artists used photographs from news events merely as references for engravings they created (Lowrey, 1998). But as technological advances in cameras and film made capturing candid moments easier, attitudes toward news photography and manipulation changed. The "realness" of the pictures in newspapers made manipulation unnecessary and even undesirable (Lowrey, 1998). Still, photographs could and continued to be altered by skilled darkroom technicians and artists with airbrushes for various compositional and content reasons (Lester, 1992). Recent advances in cameras and software have helped make manipulations easier and less detectable, even when performed by those with no background in photography (Reaves, 1989a). "The old adage that 'photography never lies' is less true today than it ever was before. They lie with increasing frequency and they misrepresent reality in some of the most respected and established magazines and newspapers in the land" (Mahon, 1996, p. 48). News publications are currently experiencing a second era of rampant photo manipulation (Lowrey, 1998).

Photo manipulation can occur in several stages during the creation of a photograph. In the camera, lens choice, composition, camera settings, and choosing when to take the picture are all manipulations. For instance, choosing a wide-angle lens can exaggerate perspective, making the background appear farther from the foreground, whereas a long focal-length lens makes objects appear closer (Hendshall, 1998). In the darkroom, the overall look of a print can be altered in many ways. One example of a traditional darkroom technique, called dodging and burning, is used for making portions of a picture lighter or darker (Reaves, 1986). Computer software allows photographers to do what they could do in a darkroom and more. Dykes (1999) calls Adobe Photoshop, one of the most popular imaging programs, the new millennium. Elements in a photograph can be cut, pasted, lightened, darkened, blurred, sharpened, colorized, cloned, painted, duplicated, rotated, inverted, and a whole list of other things.

Levels of photo manipulation

To news professionals, however, not all digital manipulation is equal. For example, some photographers argue that removing or altering small, distracting visual elements is acceptable because they are journalistically irrelevant (Evans, 1989). Others contend that removing or altering any content within the photo, with the exception of cropping along the edges of a frame, is unacceptable (Lester, 1992). But even cropping can create a stir. On one hand, some say cropping a photograph is like editing a story. A cluttered photograph can be said to have too many visual words, so cropping often provides a more concise visual statement, allowing readers to grasp the full meaning of a photograph more quickly than a cluttered one (Geraci, 1984). Others say cropping, which can be done in the camera, the darkroom, or on a computer, edits what we see and further influences our awareness of truth (Hendshall, 1998). For some, the issue is whether the manipulations are intended to deceive or lie to viewers (Kobre, 1996). This is an important question because people with low ethical journalistic standards can use computers to create realistic images that never existed (Reaves, 1989a).

National photo manipulation policies, designed to give photographers and other news professionals guidance on the issue, are similarly varied and open to interpretation. The National Press Photographers Association's ethical guidelines state: "We believe it is wrong to alter the content of a photograph in any way that deceives the public" (National Press Photographers Association, 1997, p. 26). The Society of Professional Journalists code of ethics says: "Never distort the content of news photos or video. Image enhancement for technical clarity is always permissible . . . Label montages and photo illustrations" (Brown, 1998, p. 40). The National Union of Journalists amended its Code of Conduct in 1998 to state that no manipulated photographs are to be published or broadcast unless they are clearly labeled as such. The code outlines that: "manipulation does not include normal dodging, burning, color balancing, spotting, contrast adjustment, cropping and obvious masking for legal or safety reasons" (Holderness, 1997, p. 1). Defining just how much of a picture can be altered or removed has created a gray area in the profession. The ethical decisions are left to the editors and/or photographers at each news outlet.

The Denver Post said it will only digitally manipulate a photograph to enhance the technical quality but never when it changes the meaning of the photograph. Some manipulation, like sharpening the images and adjusting the color saturation, is necessary to make up for quality lost in the production process (McPhee, 1998). Post Photo Editor John Sunderland said the only time a person might be removed from an image is when the photo is cropped (McPhee, 1998). Stung by the 1982 debacle, National Geographic adopted the following policy: "Do not alter reality on the finished image, except when it is done for some instructional purpose. And then make certain we tell our readers what was done and why" (Allen, 1998, p. 3). Randy Wood, a picture editor at the Chicago Tribune, expresses the purist point of view: "Even if a telephone pole is sticking out of somebody's head, I wouldn't change it" (Lovell, 1997, p. 1).

Attitudes of journalists toward digital manipulation

In an attempt to find out where editors, photographers, and others draw the line, Reaves has conducted a series of studies on journalists' attitudes toward photo manipulation. In one of the earliest, Reaves (1989b) conducted 13 phone interviews with magazine editors and art directors about manipulation. The editors shared similar tolerances. However, each had different ideas on how much manipulation was too much. For instance, one magazine editor said he would remove anything to make a picture more aesthetically pleasing (Reaves, 1989b). All 13 said they would never digitally manipulate a news photograph. Yet most had no problem "cleaning-up" photographs by removing indistinguishable "blobs" or extending the sky so a news photo could fit a layout. This is achieved by cloning areas of a picture. Cloning, easily done with photo software, can duplicate, erase, and extend elements of a photo. But most editors were opposed to removing a person with cloning techniques (Reaves, 1989b).

Reaves (1992/1993) posed similar questions in a mass survey of 677 visual editors. The editors were shown a series of photographs manipulated for both technical and content reasons. The study indicated that editors made a clear distinction between different levels of manipulation. Editors were three times more accepting of minor digital alterations than major ones for both content and technical reasons. For example, editors readily accepted traditional darkroom techniques when the same technique was done with a computer. About 86% said dodging and burning a photograph was acceptable. Editors were in less agreement about removing minor content from photographs. Only 29% favored removing a telephone wire from a photograph. Digitally blurring a background of a photograph to emphasize the subject was favored by 23%. Major content manipulation faced the most opposition. Ninety percent of editors opposed removing someone from the picture.

In the same study, Reaves found that journalism experience, computer knowledge, education, and age had an impact on the attitudes editors have toward digital manipulation. Editors with photography experience and those familiar with the computer technology were less tolerant of digital manipulation than those editors with less photo experience and those unfamiliar with technology. College graduates and editors who attended graduate school were less tolerant toward digital alteration than those editors who did not attend or finish college. Interestingly, magazine editors were more tolerant of digital manipulations than newspaper picture editors. Reaves

(1992/1993) suggested that this was because only 22% of the magazine editors had a photojournalism background compared to 85% of those at newspapers.

Reaves (1995c) next took on the issue of a publication altering a photograph that appears in the context of news and whether readers could distinguish a photo illustration from a "real" news photograph. She used attribution theory to suggest that readers may become confused when photo illustrations are placed in the context of news. Attribution theory states that people draw conclusions from outward behavior they observe, such as someone concluding there may be an emergency when seeing a man waving his arms for help (Reaves, 1995c). Worth and Gross (1974) theorized that if a picture is perceived as "natural," then it is interpreted as being factual. However, if a picture is perceived as "symbolic," then it is perceived as fictional or editorializing (Reaves, 1995c). Therefore, a photo illustration that looks natural may be perceived as being real, when in fact it is not. Reaves (1995c) concludes that attribution theory offers empirical arguments for why news editors should avoid using photo illustrations for their news stories. Because photo illustrations require readers to make cognitive decisions about whether an image is perceived as "natural" or "symbolic," the reader may not make the appropriate switch envisioned by the editor. Therefore, readers may misinterpret the intent of the image (Reaves, 1995c).

Public attitudes toward photo manipulation

In the work above, Reaves moved from attitudes of editors to perceptions of the public. A handful of other works have examined how altering photographs affects public attitudes. Kelly and Nace (1994) investigated whether knowledge of digital imaging and newspaper reputation affect the believability of news photographs. Sixty undergraduates read four news stories with photos that appeared to have been photocopied from the New York Times and the National Enquirer. Half the subjects viewed a 27-minute videotape about digital imaging software and how photographs can be manipulated. Stories and photos from the New York Times had higher levels of believability than the National Enquirer, as predicted. But while Reaves (1992/1993) found editors with knowledge of computer imaging software less tolerant of manipulations, Kelly and Nace (1994) found that subjects watching the videotape did not significantly alter their assessments of any of the photos they evaluated or the newspapers that printed the photos. Results suggest that believability of photographs is not entirely tied to the believability of the publication in which they appear because the photos in either context were not seen as absolutely believable. Kelly and Nace (1994) conclude that people believe photos if they make sense, not because they are exact renderings of reality. Thus, the public may be more accepting than photojournalists that photos can lie.

In a similar study, Vernon (1997) used a quasi-experimental design to examine whether exposure to published examples of digital manipulation, to a videotaped demonstration of digital manipulation techniques, or to both would affect the perceived credibility of news photography. The 172 UNLV students that served as subjects were divided into three treatment groups and a control group. Little difference was found among groups, which Vernon attributed to limitations of the size or composition of the population used, or perhaps to the nature of the photographs and/or videos used (Vernon, 1997). However, all groups agreed that the credibility of news photography is declining and that digital technology does threaten the credibility of news photography.

Another experimental study (Snyder, 1997) educated subjects on digital photographic capabilities used by many publications and advertising agencies to examine the effects of the source-related context of a photographic image on viewers' perceptions of image credibility. Results indicated that knowledge affects source and context credibility and believability. Also, as predicted, subjects were unable to differentiate altered and unaltered images.

Another experimental study of public attitudes (Terry & McBride, 1992) examined whether the perceived credibility of photographs depends on the social, economic, and political background of readers. Four color photographs (two not manipulated, one slightly manipulated, one obviously manipulated) were shown in four contexts: a newspaper front page, a newspaper feature page, a magazine cover, and in an advertisement. News photographs were seen as more credible than magazine cover photos or advertising photos. When magazine covers were compared with newspaper feature photos, the results were not consistent enough to report that one context was more credible than the other. Overall, the content of the photographs had a greater effect on readers' perceptions of credibility than the context of the photographs, suggesting that people judge the truthfulness of photographs independent of where they are published. Some interesting subject characteristics emerged as well. For example, people with lower social economic status were most likely to believe the photographs in all contexts. Also, people who identified themselves as liberals gave higher credibility to images in the media. Conservatives tended to distrust the media more.

This study aims to further what is known about the public's attitudes toward photo manipulation by examining whether non-journalists distinguish among different levels of alteration. This paper adapts the framework used by Reaves in her study of editors' tolerance of different types of manipulation for a study of public attitudes. Therefore, the following hypotheses are posed:

> **H1: Subjects who view a photograph that has been digitally altered in any way will perceive the photograph as being less credible, photography in general as being less real, and rate the news media in general as being less credible than subjects who view an unaltered photograph.**

This hypothesis is based on the studies and anecdotal accounts above that suggest that knowledge of manipulation techniques can, under some circumstances, influence perceptions of credibility. While some studies found no difference in credibility assessments between subjects exposed to general information about digital manipulation techniques and control groups, subjects in this study will see an altered photo with an explanation about how and why the news photo was altered for publication. Because subjects in this study are told that alteration took place, credibility is expected to be affected.

> **H2: As the perceived level of digital manipulation to a photograph increases, subjects will rate the photograph as being less credible, photography in general as being less real, and rate the news media in general as being less credible.**

This hypothesis, the central question in this study, proposes that the public can and will differentiate between levels of alteration when assessing credibility, just as Reaves found in her studies of journalists.

In addition to the two hypotheses, this study seeks to examine whether individual subject characteristics affect on perceived credibility. Therefore, the following research questions are tested:

> **RQ1: Do demographic factors, such as age, gender, education, and income, affect how subjects perceive a photograph's credibility, photography in general as a**

representation of reality, or the credibility of news media in general? And, do these variables interact with different levels of digital alterations?

RQ2: Does experience with computer imaging software or photography affect how subjects perceive a photograph's credibility, photography in general as a representation of reality, or the credibility of news media in general? And, do these variables interact with different levels of digital alterations?

RQ3: Do media use variables affect how subjects perceive a photograph's credibility, photography in general as a representation of reality, or the credibility of news media in general? And, do these variables interact with different levels of digital alterations?

Method

This research uses a quasi-experimental design to examine what effect level of manipulation has on public attitudes toward digital alteration of news photos, photography, and the news media in general. A quasi-experimental design was chosen over a strictly controlled laboratory experiment to gain access to a wide variety of subjects. Because age, education, and income (variables of interest in this study) are fairly homogeneous among student subjects, participants were drawn both from classes at a midsize Western university and the surrounding community. A four-page questionnaire was handed out to 101 subjects in the community at locations including a teacher's lounge at an elementary school, a barbershop, an insurance office, a hospital, a neighborhood gathering, and a church. Questionnaires were randomly stacked before distribution to ensure random assignment to groups. While control was sacrificed using this a quasi-experimental design, having members of the general public view news photographs in settings where they might naturally read a newspaper enhanced the external validity of the study. The researchers observed no discussion by subjects until after all present had completed the surveys; further, not one of these subjects suspected they had gotten a different treatment than others. Seventy-one additional questionnaires were handed out to university students in classrooms. All participants placed the completed questionnaires in a box to ensure confidentiality. The questionnaire was identical except for page two, which contained one of the five treatments for this study.

Independent Variables

Several independent variables were used in this study. Media use was operationalized by measures developed by the Roper Center for Public Opinion Research (Associated Press, 1997).

Subjects were asked how much time they spend paying attention to news in a typical week, which media they use to get of their news, and how often they used the media for news. Demographic variables, including education, age, gender, household income were also measured. Because Reaves (1992/1993) and Vernon (1997) found knowledge of computer imaging software and photography experience linked to tolerance of digital manipulation, subjects indicated their knowledge of these from "none" to "I'm an expert."

The final independent variable, the manipulated variable level of alteration adapted from a Reaves' 1992/93 survey, was the key focus of this study. All groups saw the same photograph and caption and were told that the picture ran on the front page of a daily newspaper in another state. The photograph, an unpublished shot taken by a professional photographer, is of a man who appears to be resisting arrest by two police officers. The photograph was reviewed by six photographers at a midsize daily newspaper and rated as a believable news photograph of publishable quality. The control group (Group A) viewed an unaltered version of the picture.

For the four experimental treatments, this study borrows two extremes from both the content and technical alterations used by Reaves (1992/1993). The experimental groups saw a small version of the unaltered photograph and one of four large, altered versions of the photograph with a second caption explaining the level of alteration and the justification for the manipulation. Several other cues, including a headline ("How it was altered") were designed to alert subjects in the experimental group to the alteration. **(See Appendix 1 for examples of the altered photos.)**

Group B. This photograph was altered using the technique of dodging and burning to control the contrast and look of the picture. This was considered a minor technical manipulation. Subjects in this group viewed a photograph where some of the faces were lightened and other parts of the photo were darkened. Subjects were told that an editor digitally lightened areas so readers would key in on the action and that other areas were darkened so they wouldn't detract readers from the action.

Group C. The second experimental treatment was considered a minor content manipulation. A bottle and a can in the left-hand corner of the photograph were digitally removed, and subjects were told it was done because an editor thought the trash was distracting.

Group D. The third experimental treatment was considered a more drastic technical manipulation. The background was digitally blurred, rendering some details unrecognizable. Subjects were told this was done so readers would focus on the action instead of the distracting background.

Group E. The fourth experimental treatment was considered a major content manipulation. This time a person was digitally removed, and subjects were told that the editor thought casual body language of a passerby detracted readers from the intense action happening in the rest of the photo.

Manipulation check. To ensure that the five levels of alteration were seen as significantly different, the researchers first used a within subjects pre-test with six news photographers, one editor, and a graphic artist at a midsize daily newspaper. Those professionals made a clear distinction among levels of alteration in the same direction as intended.

A three-item between-subjects manipulation check was also given to subjects immediately after the experiment was concluded. An average score of 1 indicated that subjects perceived no alteration and an average score of 5 indicated a perception of significant alteration. Analysis showed that the five groups differed significantly on the alteration measure ($F = 10.27$, $df = 4, 164$, $p < .001$). Post-hoc analyses showed that Group A, the control group, rated the photo as significantly less altered ($M = 2.42$) than all of the other groups ($p < .005$ or less for each of the comparisons). Group B ($M = 3.32$), Group C ($M = 3.28$), and Group D ($M = 3.54$) all differed significantly from Group A but not significantly from each other. Group E, which viewed a photograph where a person was removed, rated the photograph as being significantly more altered ($M = 3.94$) than subjects in group A, the control group ($p < .001$), and slightly more altered than subjects in group B ($p < .072$) and subjects in group C ($p < .065$). There was no difference between Group D and Group E. The manipulation check suggests that the public did see the different levels of alteration in the same manner as intended.

Dependent Variables

Three dependent variables were used in this study. Subjects' perceived credibility of the published photograph was measured using Meyer's (1988) seven-item, five-point semantic differential credibility scale, which had a reported Cronbach Alpha of .84 (Rimmer & Weaver, 1987). Subjects' perceived credibility of news media in general was measured using a shortened version of the same scale. Meyer (1988) regarded the seven-item scale as too bulky and deleted two items, leaving a five-item News Credibility scale with a reported Cronbach alpha of .83. Subjects were asked to indicate feelings toward all news media on the following adjective pairs: fair/unfair, unbiased/biased, tells the whole story/doesn't tell the whole story, accurate/inaccurate, and can be trusted/can't be trusted. An adaptation of the five-item Perceived Realism Scale (PRS) measured subjects' attitudes toward news photography in general. The five-item scale is internally consistent, with reported alphas of .85 or higher (Rubin, 1981). The PRS has mainly been used to measure perceived realism of TV news programs (for example, see Rubin, Perse, & Powell, 1985). In this study, the statements were altered slightly to apply to photographs (for example, "Photographs present things as they really are in life"). Agreement was measured on a five-point Likert scale.

Findings

Demographics

Subjects returned 172 usable questionnaires, distributed as follows among the five groups: 34 in Group A, 38 in Group B, 32 in Group C, 36 in Group D, and 32 in Group E. Of the 172 subjects, 60.5% (n = 104) were female and 39.5% (n = 68) were male. Subjects ranged in age from 18 to 70 (M = 33.25, Median = 29.5). Of those who reported their ages, 50% (n = 83) reported being under 30, 42.2% (n = 77) reported being between 30 and 59, and 7.8% (n = 6) reported being between over 60. For education, 4.7% (n = 8) reported having some high school experience, 7% (n = 12) completed high school, 36.6% (n = 63) had some college experience, 21.5% (n = 37) had a college degree, 18.6% (n = 32) had done some graduate work, and 11.6% (n = 20) had a graduate degree. The large number of college students in this sample explains the dominance of those with some college education.

Slightly more than a quarter of subjects (n = 44) reported having annual incomes of less than $20,000, number also influenced by the large number of student subjects. The majority of subjects, 51.2% (n = 88), reported an annual income between $20,000 and $89,999. The largest number in that group, 8.7% (n = 15) reported an annual income of $30,000 and $39,999. On the upper end of the scale, 4.1% (n = 7) subjects reported an annual income of $90,000 and $99,999; 5.2% (n = 9) reported an annual income of $100,000 and $109,999; and 8.7% (n = 15) reported an annual income of $110,000 or more. The average score on the income category scale was 5.83 and the median was 6.0, which corresponded to $50,000 to $59,999 on the scale.

On a scale of 1 (none) to 5 (expert), subjects, on average, reported having limited experience with imaging software, such as Adobe Photoshop (M = 2.33, SD = 1.34). Eighty-one subjects (47.1%) reported having no experience with imaging software, 21 (12.2%) reported very little experience, 27 (15.7%) reported some experience, 36 (30.9%) reported having much experience, and 7 (4.1%) classified themselves as experts. More subjects were experienced in photography (M = 2.48, SD = 1.11). Thirty-eight (22.1%) reported having no photography experience, 32.6% (n = 56) reported little experience, 40 (23.3%) reported some experience, 34 (19%) reported much experience, 4 (2.3%) reported being experts.

Scale analyses

Removing the sole reverse-worded item (biased/unbiased) improved reliability (a = .89) on the scale used to measure the credibility of the published photograph and left one factor (Eigenvalue of 4.12, explaining 58.90% of the variance). The remaining six items were averaged to create the score where the **lower** the average, the higher the perceived credibility. Scores ranged from 1 to 5 with a mean of 3.44 (SD = .94, Median = 3.5). Removing one item on the Perceived Realism Scale improved reliability to a = .80 and produced a four-item scale that loaded neatly into one factor (Eigenvalue of 2.53, explaining 63.20% of variance). Subjects' average score on the scale became the dependent variable realism of photography in general, where higher scores meant higher perceived realism. Scores ranged from 1.25 to 4.75 with a mean of 3.01 (SD = .78, Median = 3). All five items on the final index loaded into one factor with an Eigenvalue of 3.28, explaining 65.25% of variance, which was reliable (a = .87). The items were averaged to create the dependent variable of media credibility where the higher the score the higher the perceived credibility. Scores ranged from 1.6 to 5.0 with a mean of 3.43 (SD = .70, median = 4).

Tests of hypothesis and research questions

H1: Subjects who view a photograph that has been digitally altered in any way will perceive the photograph as being less credible, photography in general as being less real, and the news media in general as being less credible than subjects who view an unaltered photograph.

To test this hypothesis, an independent samples t-test was run comparing Group A (n = 34) with a combination of Groups B, C, D, and E (n = 137). This hypothesis tested whether the cues of digital alteration contained in the headline, caption, and photograph, regardless of level, had an effect on attitude. No significant differences were found on any of the dependent measures between those who saw an unaltered news photo and those who were shown any type of digital manipulation. The control group rated the credibility of the photograph (M = 3.47) the same as subjects who saw any type of altered version (M = 3.44). The control group and combined experimental groups had identical scores on the perceived realism of photography (M = 3.01). And for media credibility in general, the groups were again virtually equal (control, M = 3.51; digital manipulation groups, M = 3.41). Therefore, the hypothesis was not supported.

H2: As the perceived level of digital manipulation to a photograph increases, subjects will rate the photograph as being less credible, photography in general as being less real, and the news media in general as being less credible.

A one-way ANOVA was run on each of the three dependent variables by level of alteration. For the perceived realism of photography and for the credibility of the news media in general, no significant differences were found among groups. Average scores for the photography realism score ranged from 2.89 to 3.16 among the five groups, while scores for news media credibility ranged from 3.21 and to 3.55. **(See Table 1 for means of each group on the three credibility scores.)**

However, for the dependent variable of the published photograph's credibility, a significant difference was found among groups (F = 6.00, df = 4, 165, $p < .001$). Again, scores close to 1 indicated high credibility, and scores close to 5 indicated low credibility. Post-hoc analyses using Tukey showed that Group B, which viewed a photograph that had been dodged and burned, saw the photograph as being more credible (M = 2.94) than those in Group C, where a bottle and a can were removed from the photograph (M = 3.74, $p < .003$). Those in Group B also saw the photograph they viewed as being significantly more credible than those in Group E, who viewed a photograph in which a person was digitally removed from the photograph (M = 3.88, $p < .001$). Group D, which viewed the photograph with a digitally blurred background, saw their photograph to be significantly more credible ($M = 3.29$) than Group E ($M = 3.88$, $p < .046$). No other differences were found among groups. The hypothesis was supported in part because differences were found for one of the three dependent variables, the credibility of the photograph, in the direction predicted.

RQ1: Do demographic factors, such as age, gender, education, and income, affect how subjects perceive a photograph's credibility, photography in general as a representation of reality, or the credibility of news media in general? And, do these variables interact with different levels of alteration?

Linear regression analysis could be used to see the relationship between the demographic factors and each dependent variable. However, because the manipulation in this experimental design affected at least one dependent measure, univariate and multivariate ANOVAs permitted a clearer examination of each factor within and between each treatment group.

Age. Subjects were split into three fairly equal groups: 24 and under, 25 to 37 and 38 and older. No significant differences were found among the three age groups for published photograph's credibility and perceived realism for photography in general. However, a significant difference was found for overall media credibility ($F = 6.44$, $df = 2, 162$, $p < .002$). Post-hoc analyses showed that subjects between the ages of 18 and 24 reported media in general as being more credible ($M = 1.85$) than subjects between the ages of 37 and 70 ($M = 3.66$). No other significant differences were found. To test whether age interacted with the level of alteration, a two-way ANOVA was run on each of the three dependent variables. For the credibility of the published photograph, a main effect was found for treatment ($F = 5.29$, $df = 4, 163$, $p < .001$). This finding was expected, given the results of Hypothesis 2. For media credibility, a main effect was found for age ($F = 4.63$, $df = 2, 164$, $p < .003$). This finding was expected, given the results reported above. No other main effects or interactions were found. **(See Table 2 for means on the scores by age group.)**

Gender. A t-test comparing the 104 females and 66 males revealed no significant on any of the dependent variables. In looking for interactions, no main effects for gender or treatment were found on any of the dependent variables. However, on the photographic realism measure, an interaction emerged ($F = 3.12$, $df = 4, 170$, $p < .018$). Analyses showed that significant differences between males and females emerged in two of the groups. Females in Group B (minor technical alteration — dodging and burning) rated photography's realism overall as significantly higher (M = 3.41) than males (M = 2.75, *t* = 2.60, df = 36, p < 015). In Group D (major technical alteration — blurred background), females rated photography's realism as significantly lower (M = 2.68) than males (M = 3.31, *t* = 2.60, df = 36, p < .015). No differences emerged for gender in the other three treatment groups. An interaction was also found for media credibility (F = 2.91, df = 4, 168, p < .025). Females in Group B saw the media as significantly more credible (M = 3.30) than males (M = 3.73, p = 2.08, df = 36, p < .046). In Group D, females saw the media as significantly less credible overall (M = 3.77) than males (M = 3.12, t = 2.08, df = 33, p < .015). In the other three groups, no significant difference emerged. **(See Table 3 for means on scores by group and gender.)**

Education. When the 83 subjects who reported having no college degree were compared to the 89 subjects who had a college degree, no significant differences were found. In testing the interaction between education and level of alteration, a two-way ANOVA run for credibility of the published photo revealed a main effect for level of alteration (F = 5.84, df = 4, 169, p < .001), which was expected given the results of Hypothesis 2. No other main effects or interactions emerged.

Income. Subjects were split into three fairly equal groups representing low, medium and high incomes. The groups did not differ on credibility of the published photograph. For photography's realism, subjects with lower incomes (M = 3.20) rated photography as slightly more real than those in the middle income (M = 2.90) and upper income (M = 2.89) brackets. However, this difference was only approaching significance (p < .061). For media credibility, significant differences emerged by group (F = 3.21, df = 2, 157, p < .044). Those with lower incomes rated the media as significantly more credible (M = 3.27) than those with higher incomes (M = 3.63, p < .032). The middle income group (M = 3.41) fell in between the two. In the tests for interaction between income level and level of alteration, a main effect for treatment on published photograph's credibility emerged, which again was expected given findings for Hypothesis 2. For total media credibility, a significant main effect was found for income (F = 3.74, df = 1,159, p < .027) in the same direction as reported above. No other main effects and no interactions with treatment were found for income.

RQ2: Does experience with computer imaging software or photography affect how subjects perceive a photograph's credibility, photography in general as a representation of reality, or the credibility of news media in general? And, do these variables interact with different levels of alteration?

The 81 subjects who reported having no experience with computer imaging software were compared to the 91 subjects who had any type of level of experience. The only difference that emerged between the two groups on any of the three dependent variables was for credibility of the published photograph. Subjects with any experience with computer imaging software saw the published photograph in the questionnaire as being slightly more credible (M = 3.32) than those with no experience at all (M = 3.58, t = 1.84, df = 168, p < .068). To look for interaction between computer imaging experience and level of alteration, a two-way ANOVA was run comparing the independent variable of experience with imaging software and treatment on the three dependent variables. For the published photograph's credibility, a main effect was discovered for the different levels of digital alteration (F = 6.29, df = 3, 135, p < .002), an expected finding, given the findings in Hypothesis 2. No other main effects or interactions emerged.

Next, the 94 subjects who ranked themselves as having little or no photography experience were compared with the 78 subjects who had more experience. No differences were found between the groups on the three dependent variables. In testing for interaction between photo experience and treatment, no significant interactions were found. The only main effect that emerged was for the effect of treatment on the photograph's credibility (F = 5.73, df = 4, 169, p < .001). This finding was expected considering the results of Hypothesis 2.

RQ3: Do media use variables affect how subjects perceive a photograph's credibility, photography in general as a representation of reality, or the credibility of news media in general? And, do these variables interact with different levels of alteration?

A media use score was computed for each subject by averaging subjects' responses on how often they used each of the seven media types for news. Actual scores ranged from 0.57 to 3.86, with an average of 1.91. Subjects whose scores were 1.57 or less were grouped as low news media users; subjects with scores from 1.58 to 2.14 were grouped as medium news media users, and subjects who ranged from 2.15 to 4 were grouped as high news media users. No significant differences were found among the groups on any of the dependent variables. To test for interaction between level of media use and level of alteration, a two-way ANOVA was run to compare each of the three media use groups on each of the five treatment groups. As expected, for the credibility of the published photograph, a main effect emerged for group ($F = 5.53$, $df = 4, 168$, $p < .001$). No other main effects or interactions were found on credibility of the published photograph nor for the dependent variables of photography's realism and media credibility.

Media use was examined in another way, examining subjects by the sources used most often for news. Subjects were then grouped into 85 who reported getting most of their news from television, 56 who relied more on newspapers, and 31 who relied on other sources, including radio, magazines, Internet. A one-way ANOVA showed no differences among groups on any of the three dependent variables. To test for an interaction between the primary news source and level of photo alteration (treatment), a two-way ANOVA was run on treatment by group. As expected, a main effect for treatment was found for published photograph's credibility ($F = 5.66$, $df = 2, 169$, $p < .001$). No other main effects or interactions were found.

Summary of results

Most importantly, the study showed that level of alteration did affect subjects' perception of the credibility of the published photograph. As the level of alteration increased, subjects saw the photograph itself as being less credible. Just as visual editors in Reaves' (1992/1993) study were less tolerant of both major technical and content alterations, subjects in this study found photos with such digital alterations to be less credible than photos with no, or little, alteration. This was the opposite of what Kelly and Nace's (1994) finding that subjects who learned how digital manipulations didn't change their evaluation of a photograph's credibility. Level of treatment did not work as expected in comparing the control group, which was shown an unaltered photograph, to any subject who saw an alteration. Both groups rated the credibility of the published photograph, photography in general, and the media overall as virtually equal. It is important to note at this point that the manipulation check did show that the public, even in a between-group design where subjects saw only one alteration, clearly differentiates between levels of manipulation although not to the same extent as news professionals do. It's simply that this differentiation does not translate into differences in public assessment of credibility on any of the levels measured. While this finding was contrary to Hypothesis 1, it is not inconsistent with studies outlined above (for example, Kelly & Nace, Vernon).

This study also found that certain individual characteristics were related to perception of media credibility. People with college degrees and advanced degrees tended to be less trusting of the media in general than those without a college degree. Younger subjects trusted the media more than older people. Income level also was related to how subjects viewed photography and media credibility. Subjects making less than $30,000 viewed photographs to be more real than subjects making between $30,000 and $80,000, and they also viewed the media as being more credible than subjects making more than $80,000. That these two variables were predictors of attitudes toward photographs and the news media in general is not surprising. A Chi-Square analysis showed that younger subjects were most likely to be the ones in the low-income category and older subjects were more likely to be in the middle and upper income categories. Contrary to Reaves' (1992/1993) finding that editors with some computer knowledge were less tolerant of manipulations than editors with little knowledge, this study found that subjects who had experience with computer imaging software were more tolerant of digital manipulations than those with no experience.

Although subjects in this study distinguished among the levels of digital alterations, the level of alteration on its own was not the main reason affecting attitudes when assessing credibility of photography as a whole or the news media in general. Demographic factors worked on their own determine the outcomes and, in most cases, did not interact significantly with level of alteration. The lack of interaction between demographic variables and levels of photo manipulation suggests that the treatment may not have been strong enough to overcome long-held attitudes toward photographs and news media, which seemed to be more related to demographic characteristics.

However, even though the demographic variable of gender did not emerge as a main effect, an unexpected interaction emerged when the alteration was done for technical reasons rather than content reasons. Women were much more tolerant of the minor technical alteration and much less tolerant of the major technical alterations than men.

Discussion

Although increasing levels of digital photo alteration caused subjects to rate the photograph they viewed as significantly less credible, level of alteration did not significantly affect overall attitudes of photography or the news media in general. Knowing this, journalism practitioners should not jump to conclusions that public perception of photojournalism will not erode with rampant digital photo manipulation. Nor should rigid editors loosen any of their decision-making skills because they think the public doesn't care about digitally altered photographs.

Because this study found that credibility of a news photograph declines as the level of manipulation increases, individual photojournalists may be at risk of losing credibility with the public if one of their pictures is altered and the public is made aware of it. Knowing that manipulation affects a photograph's credibility, editors and photographers should carefully consider whether alternating a photograph is worth the risk of losing credibility with the public. Just because seeing one digitally altered photograph had no significant impact on attitudes of media credibility does not mean that this pattern would hold true after media consumers were exposed to many cases of digital alteration. Many exposures to alteration over time might slowly erode perceptions of media credibility, whereas a one-time exposure to the process would not.

The finding that those experienced with imaging software were more accepting of alteration than those with no experience also carries important implications. As computer hardware and software becomes more affordable, accessible, and familiar to the public, a new generation of media consumers may assume that all photographs are digitally manipulated, including news photographs. Potentially, photojournalism could lose its role as a credible and trusting representation of reality. Again, photographers and editors need to continue holding high standards when manipulating photographs and educating the public on their standards.

An interesting finding in this study was how men and women were affected differently when alterations were done for technical reasons. Women who viewed either the major or minor technical manipulation showed more sensitivity in assessing photography in general and media credibility overall. Explaining this interaction poses a challenge. Previous studies have failed to report out results by gender. In fact, testing for the effects of gender was an afterthought in this study, because the literature did not suggest that it would be a factor. One explanation may be linked to the technical backgrounds of men and women. However, t-tests revealed no significant differences between genders on familiarity with photography or imaging software. Another explanation might be that the major technical alteration (the blurred background) did affect the content of the picture because people in the background were rendered unrecognizable, which might explain why women would be less tolerant of this type of alteration than men. Clearly, further research is needed to examine why the genders differed so drastically on these technical alterations and not on the content alterations.

Future research on this topic should continue to examine public perceptions and compare them with media practitioners. Subjects in this study and samples in studies by Reaves showed that both groups generally do not tolerate extreme cases of manipulation. Regardless of whether people have photojournalism experience or not, nearly everyone recognizes that it is wrong to remove a person from a photograph. However, a gray area exists with more subtle levels of alteration. Editors studied by Reaves were not always in agreement with minor alterations, and subjects in this study did not clearly differentiate between less drastic alterations. At what point does the public say how much manipulation is too much? Future research using a within-subjects rather than a between-group design may help us draw that line. Also, replicating Reaves' multiple photographs design with the public would prove useful. The public may draw distinctions between photographs with different content and contexts. The use of only one photograph in this study was a limitation.

The study also would have been stronger with a larger number of subjects. However, the results from the 172 respondents used in this study show that expansion to a larger population would be worthwhile. The measurement and operationalization of certain variables also posed limitations. The measurement of socioeconomic influences by annual household income proved problematic because of the large number of college students used in the study. Further, the scales used to measure the published photograph's credibility and the media in general designed for news stories to give an overall impression, whereas this study just examined one picture and a vague caption. For instance, the measure of credibility of the published photograph asked if the picture "told the whole story" or was "accurate," which may have confused subjects. Subjects also were asked whether the photograph "was biased" or "unfair." For example, subjects in the control group, perceived their photograph to be slightly (not significantly) more credible than subjects in the minor technical alteration groups. Even though the control group was told they saw an original photograph from a newspaper, the manipulation check, which asked them to assess the level of alteration in the photograph, may have suggested to them that there was some alteration. These factors may have contributed to Hypothesis 1 not being supported. However, as the manipulation check came after the measurement of the dependent variables, so this likely was not a confounding variable.

Conclusion

To say that digital manipulation should never be done would be a conclusion narrow in scope. This research does not advance the idea that this technology has, or will, damage photojournalism. Photojournalists cannot help but enjoy what digital imaging technology has brought to the industry. The digital process speeds the time needed to complete assignments and allows photographers to improve the technical quality of their pictures. The technology also gives editors more flexibility and creativity with page layout. However, if left in careless hands, this powerful tool can potentially damage the credibility of photography and the media. The public will not know or care about the thousands of times when a photo was not altered. Only those headline-grabbing incidents of improperly used alterations will weigh on the public mind.

This study suggests that the credibility of an altered photograph is at risk more than photojournalism as a whole or media in general. But collectively, many alterations may lead to a slow erosion of media credibility over time. Photographers must remember that each photograph must be looked at individually for its credibility; thus, common sense on a case-by-case basis should dictate how much manipulation is acceptable or tolerated. If editors and photographers continue to exercise solid judgment when digitally altering a photograph, photojournalism will not lose its role as a credible source of information for the public. Continued studies could help determine how much manipulation is acceptable within the profession and the public.

Addressing issues of public perception is one of the key solutions if photographers and news media want to improve credibility with public. Photographers and their editors must let the public know that even though altering photographs is a simple process, it is not a widely accepted practice in the industry. Newsrooms should revisit their ethics policies and add or update photo manipulation standards on their lists. Sharing such policies with the public could help increase trust in journalism and stop the erosion of media credibility that has taken place in recent years. Only then can photographers retain their vital role as trusted collectors and disseminators of news.

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Table 1: Means for credibility scores among treatment groups

Credibility score	*A: Control (n = 34)*	*B: Dodging, burning (38)*	*C: Trash removed (32)*	*D: Elements blurred (36)*	*E: Person removed (32)*
Published photograph	3.47	2.94	3.74	3.29	3.88***
Photography in general	3.01	3.16	2.91	2.88	3.07
Media in general	3.51	3.47	3.32	3.55	3.39

*** difference among groups significant (F = 6.00, df = 4, 165 p. < .001)

Note: For published photograph score and media score the lower the score, the higher the perceived credibility

Table 2: Means for credibility scores by age

Credibility score	*18-24 (n = 53)*	*25-37 (n = 59)*	*38-70 (n = 54)*
Published photograph	3.41	3.27	3.61
Photography in general	3.17	2.97	2.94
Media in general	3.18	3.44	3.66**

** difference among groups significant (F = 6.44, df = 2, 162, p. < .002)

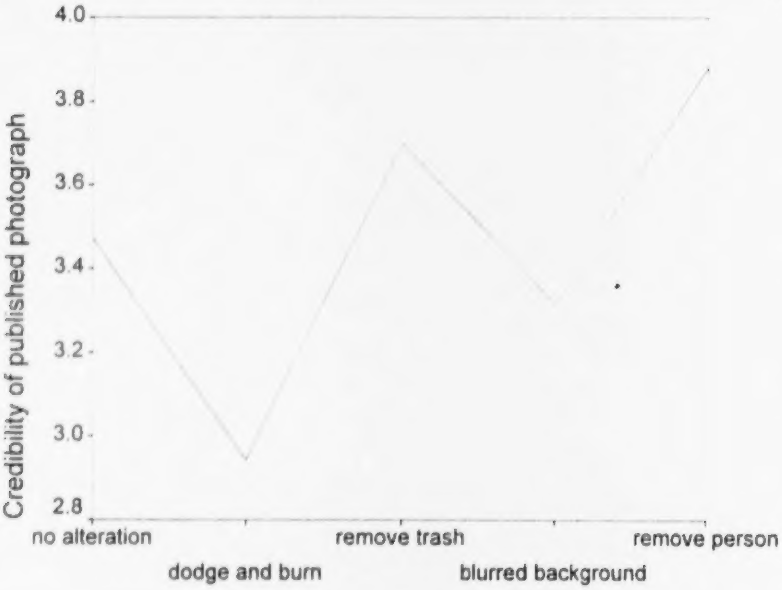
Note: For published photograph score and media score the lower the score, the higher the perceived credibility

Table 3: Means for credibility scores by gender and group

Credibility score	A: Control	B: Dodging, burning	C: Trash removed	D: Elements blurred	E: Person removed
Published photograph	**M = 3.50** **F = 3.45**	**M = 3.17** **F = 2.80**	**M = 3.92** **F = 3.56**	**M = 3.13** **F = 3.41**	**M = 3.86** **F = 3.90**
Photography in general	**M = 2.89** **F = 3.10**	***M = 2.75*** ***F = 3.41****	**M = 2.85** **F = 3.04**	***M = 3.31*** ***F = 2.68****	**M = 3.16** **F = 2.96**
Media in general	**M = 3.44** **F = 3.56**	***M = 3.73*** ***F = 3.30****	**M = 3.33** **F = 3.14**	**M = 3.12** **F = 3.77***	**M = 3.41** **F = 3.37**

* *difference between males and females in these cells significant at p < .05*

Credibility assessment of published photo among groups



Note: Higher means = lower credibility

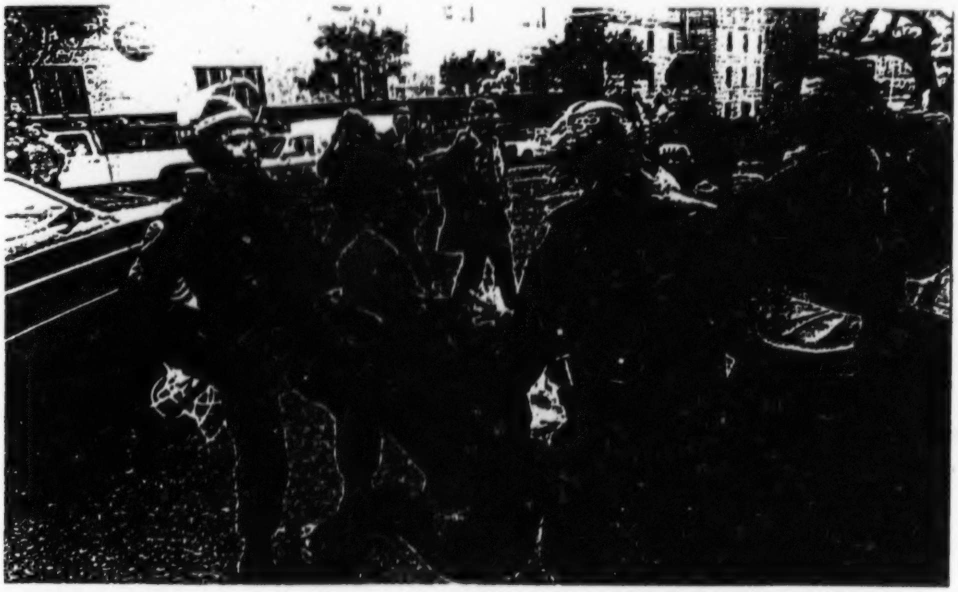
Appendix 1: Presentation of photograph

Group A

① **DIRECTIONS:** This picture is an original photograph taken by a news photographer. The photo as it appears below ran on the front page of a daily newspaper in another state.

Examine the photograph and the accompanying caption closely.

The published photo



② *Police were called out to control a crowd of people causing disturbances outside a large company. The people protesting were opposed to some of the business practices maintained by this company.*

③ Turn the page and continue with the survey.

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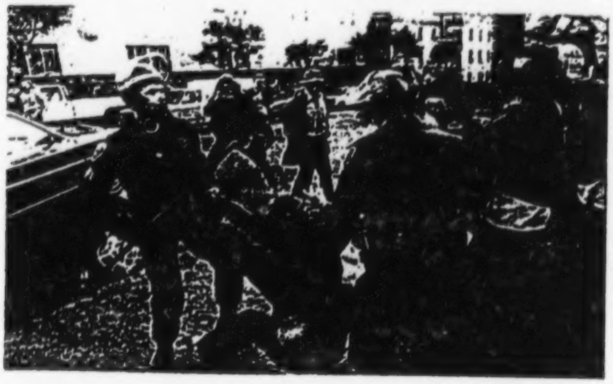
① **DIRECTIONS:** The top picture is the original photograph taken by a news photographer. A photo editor then used a computer to digitally alter the picture (bottom photo). The altered photo ran on the front page of a daily newspaper in another state.

Examine each photograph and the information with them closely.

……

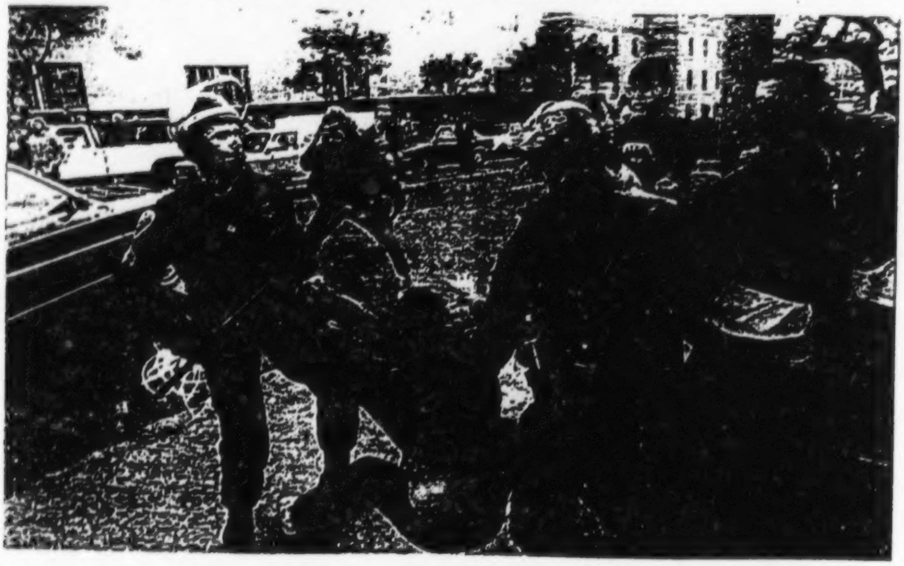
②



The original picture taken by a news photographer

Police were called out to control a crowd of people causing disturbances outside a large company. The people protesting were opposed to some of the business practices maintained by this company.

……



③ How the published photo was digitally altered by an editor

A photo editor digitally removed the man standing in the middle of this picture. The photo editor thought his casual body language detracted readers from the intense action happening in the rest of the photo.

……

④ Turn the page and continue with the survey.

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